FOUNDED IN 185

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

NOVEMBER 19, 1951

3 Copy
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In July 1951, a fleet of 179 General Motors Diesel locomotive units on the Milwaukee Road—143 freight and 36 passenger—handled approximately 52% of the Milwaukee's gross ton-miles and 44% of its total passenger car miles. Ninety-one GM freight units acquired since 1948 helped increase gross ton-miles per train hour from 34,645 in that year to 44,245 in July 1951—*a 28% improvement in efficiency!*

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For some time, an Inland Customer, who makes farm implements, had been buying 62½" x 128" sixteen gage cold rolled sheets for a certain part and had always specified that they be stretcher levelled and resquared to insure extra flatness.

The process of stretcher levelling and resquaring at the mill added substantially to the cost of the cold rolled sheets. Art Brackett*, the Inland sales representative on this account, questioned the need for this costly operation.

One day, on a visit to the customer's plant, he asked to take a look at the part being fabricated from this large sheet. He found that the stretcher levelled and resquared sheets were shipped from Inland to an independent fabricator for blanking. They were then shipped to Art's customer who further fabricated them and welded on bracing and framing sections before assembling them on his implements.

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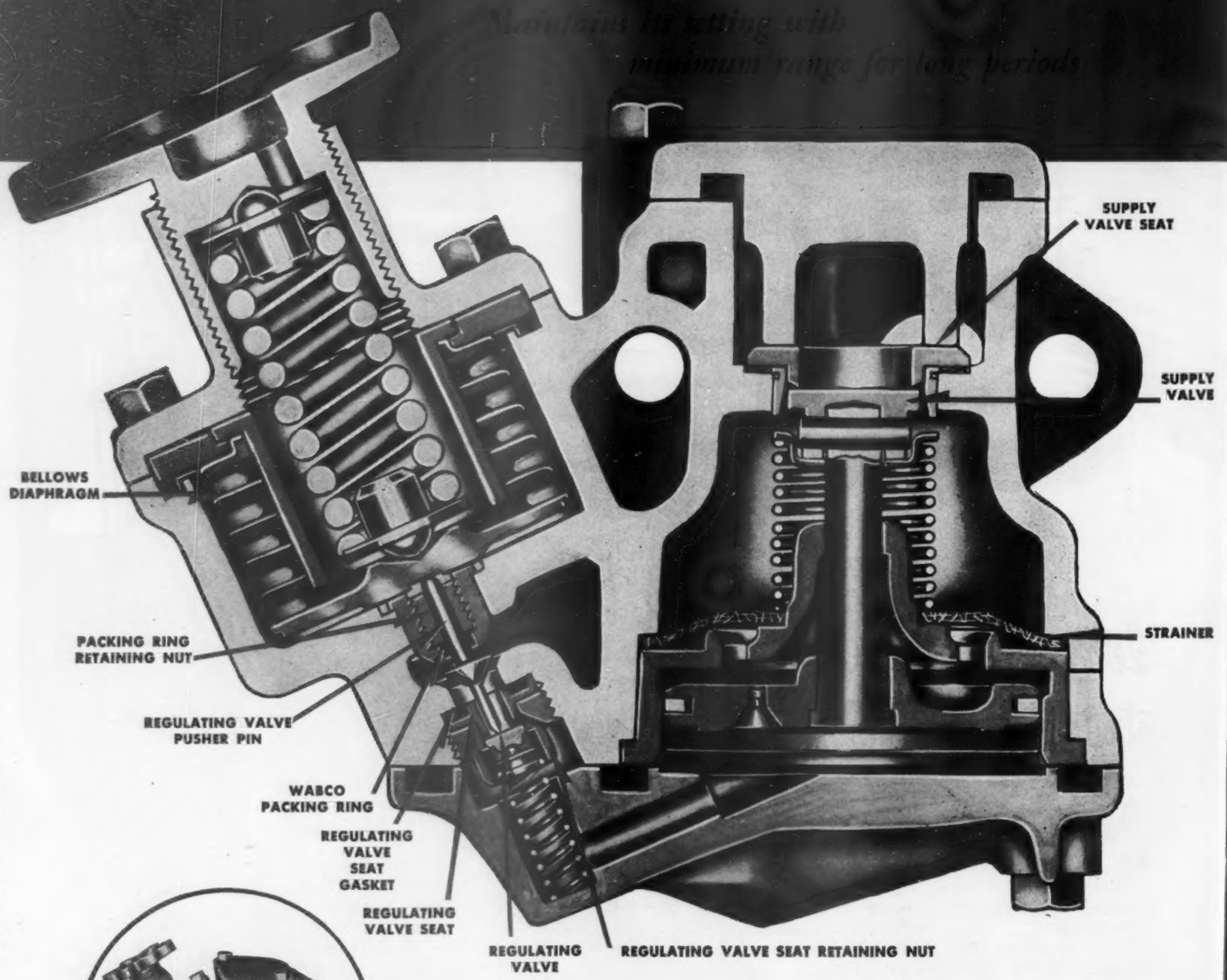
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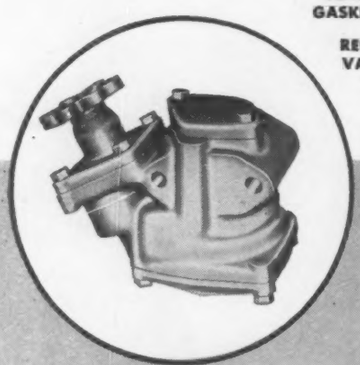
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Vol. 131, No. 21 November 19, 1951

RAILWAY AGE

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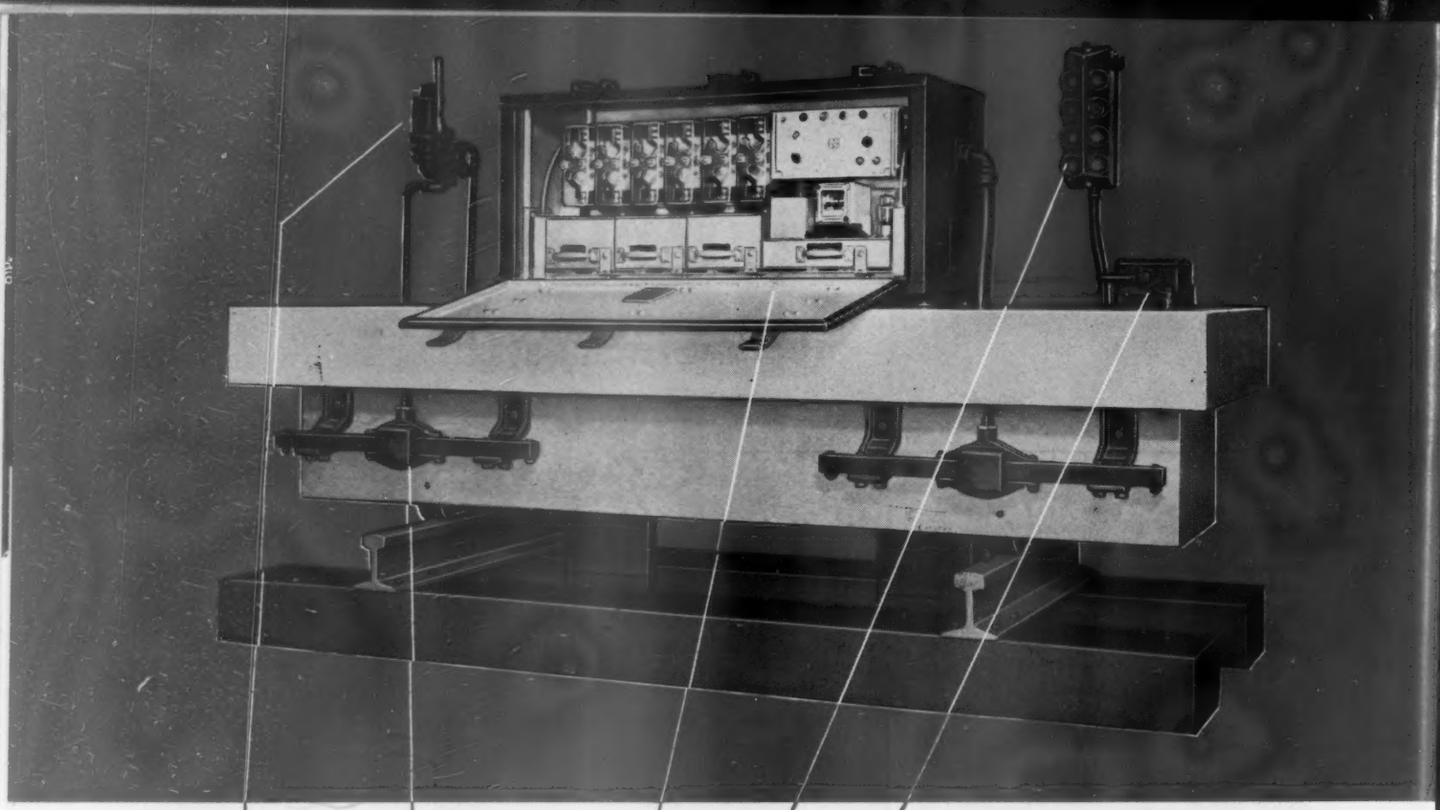
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Books covering transportation and building

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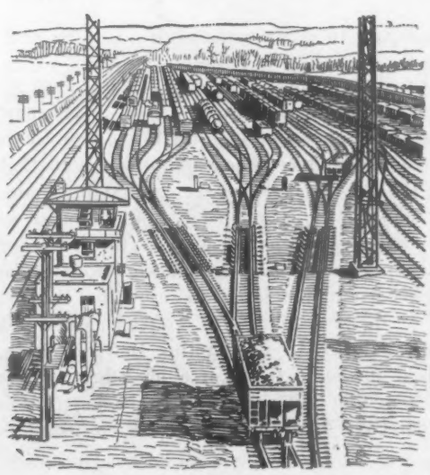
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NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, nine months	
1951	$ 7,618,561,753
1950	6,757,696,350
Operating expenses, nine months	
1951	$ 6,020,189,115
1950	5,160,195,075
Taxes, nine months	
1951	$ 857,337,404
1950	783,172,146
Net railway operating income, nine months	
1951	$ 589,700,770
1950	680,351,673
Net income, estimated, nine months	
1951	$ 377,000,000
1950	469,000,000
Average price railroad stocks	
November 12, 1951	52.99
November 13, 1950	48.30
Car loading, revenue freight	
44 weeks, 1951	34,658,033
44 weeks, 1950	32,893,965
Average daily freight car surplus	
Week ended November 10, 1951	2,935
Week ended November 11, 1950	4,475
Average daily freight car shortage	
Week ended November 10, 1951	9,434
Week ended November 11, 1950	27,362
Freight cars delivered	
October 1951	10,082
October 1950	5,501
Freight cars on order	
November 1, 1951	132,792
November 1, 1950	122,488
Freight cars held for repairs	
October 1, 1951	97,176
October 1, 1950	107,398
Net ton-miles per serviceable car per day	
August 1951 (preliminary)	1,074
August 1950	1,093
Average number railroad employees	
Mid-September 1951	1,286,469
Mid-September 1950	1,283,514



In This Issue . . .

THEY CALL US OLD-FASHIONED: Architects responsible for the design of the new European passenger stations appear boldly to have broken away from classical precedents in their complete acceptance of new structural materials and so-called functional principles. Some of the results are pictured and commented upon in this issue (page 56).

THE OUTLOOK FOR DIESELS: With the railroads somewhere near halfway toward complete dieselization, the Boston & Maine's E. K. Bloss has been impelled to take stock, as it were, of the present state of the art of designing and building diesel-electric locomotives, and to point toward some opportunities, as he sees them, for further advances. His article appears on page 53.

WINDFALL FOR AUDITORS—That's the way John L. Varley of the Chesapeake & Ohio describes the fast and easy technique for monthly reconciliation of paycheck bank accounts worked out for that road with the cooperation of the banks handling these accounts. On page 60 Mr. Varley tells how this plan works.

FOR BENEFICIARIES OF SUBSIDIZED TRANSPORT—a warning. It's on page 51.

In Washington . . .

NEWS FROM THE POTOMAC: Seatrain gets temporary authority to operate between Savannah and New York.—Firemen's leaders annoyed by make-up of new emergency board.—Negotiations renewed between engineers and carriers in wage dispute.—Rentzel leaves post as under secretary of commerce for transportation.—In October one month's freight car deliveries exceeded 10,000 for first time since April 1949.—Government agencies oppose reopening Ex Parte 175 rate case.

LOOKING AT LOGISTICS: New developments in warfare—and in the conceptions guiding the planning done by the military people—may seriously alter the historic dependence of the armed services upon ships and railroads for mass movements of men and material. This, at any rate, is the conclusion advanced by Colonel Bodner of the Command and General Staff College, in an article in the Military Review for October—an article, we are informed, which does not necessarily express the views of the Transportation Corps. Colonel

WEEK AT A GLANCE

Bodner declares that it is "doubtful whether the railroads can be depended upon in a future war as a primary means of transportation." He fears that ports and railroad facilities will be so vulnerable to all the fantastic new weapons that reliance will have to be placed principally on aircraft—100-ton capacity superfast cargo carriers that will not require prepared runways. Financing, designing, building, maintaining and fueling these dream planes, he concedes, will be a task of major proportions. In this respect at least Colonel Bodner will, we predict, find plenty of practical transportation men to agree with him.

. . . And Elsewhere

WINNING YOUR WAY: "Winning Your Way With People," the interesting book on human relations by K. C. Ingram, assistant to the president of the Southern Pacific in charge of public and employee relations, is soon to be printed in Dutch, with an initial edition of 5,000 copies. The book, which has sold more than 50,000 copies in this country, was reviewed in a Railway Age *editorial on October 15, 1949, page 39.*

CAREFUL SWITCHING: The electrified Bamberger Railroad, which operates between Ogden, Utah, and Salt Lake City, has an unusual approach to the careful switching problem which President Julian M. Bamberger says has proved to be very effective. Instead of taking all operating employees within a specified territory and herding them in for a mass meeting, Bamberger officers deal with each train or yard crew individually — often on the ground. The idea is that each crew works together as a unit and if they have an opportunity to interchange ideas on fine points of train handling, signal passing, etc., they become a more closely knit group and will do a better all 'round job. These informal meetings are usually prefaced by a few words from the railroad's officer on the significance of the road's own freight claim bill to its traffic, to possible improvements in plant and equipment, etc. This gives the crews something far more tangible to "chew on" than a mere recital of statistics and provides a real incentive for them to let their hair down in a frank analysis of their work.

NORTH OF THE BORDER: The Canadian Parliament is wrestling with a government proposal (see the news pages) to "equalize" freight rates in that country without discarding the special advantages now provided for shippers who are in a position to benefit from the Crows Nest Pass agreement and the long-standing special Maritime Provinces arrangements.

STILL FALLING SHORT: Heavy trucks will still fall far short of paying an equal share of highway costs under New York state's new motor tax program, according to studies by the Joint Legislative Committee on Highways, Canals and Revenues. The committee found that the biggest trucks traveling the state's roads today—60,000-lb. combinations—will still pay only about half as much per 100 ton-miles as will passenger cars—13.56 cents as compared with 25.68 cents for an average small car. For the present at least the truckers won't even pay that much, for they succeeded in obtaining an injunction against collection of taxes provided by the law, which was adopted earlier this year and went into effect on October 1. In granting the injunction, however, the court authorized the state to enforce all other aspects of the law and warned truckers that full records must be kept, since taxes will become due retroactively to October 1, if the constitutionality of the law is upheld.



WILLIAM WYER (above), new trustee of the Long Island, began railroading in 1919 with the United States Railroad Administration. From 1943 to 1947 Mr. Wyer was chief executive officer of the Central of New Jersey. During the past two years Mr. Wyer's firm has made studies of the Long Island, first for the New York Public Service Commission and since last August for his predecessor as trustee.



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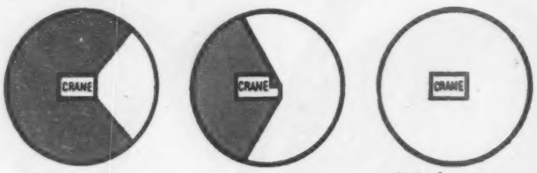
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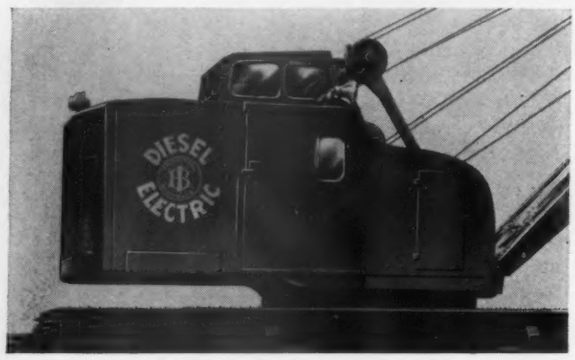
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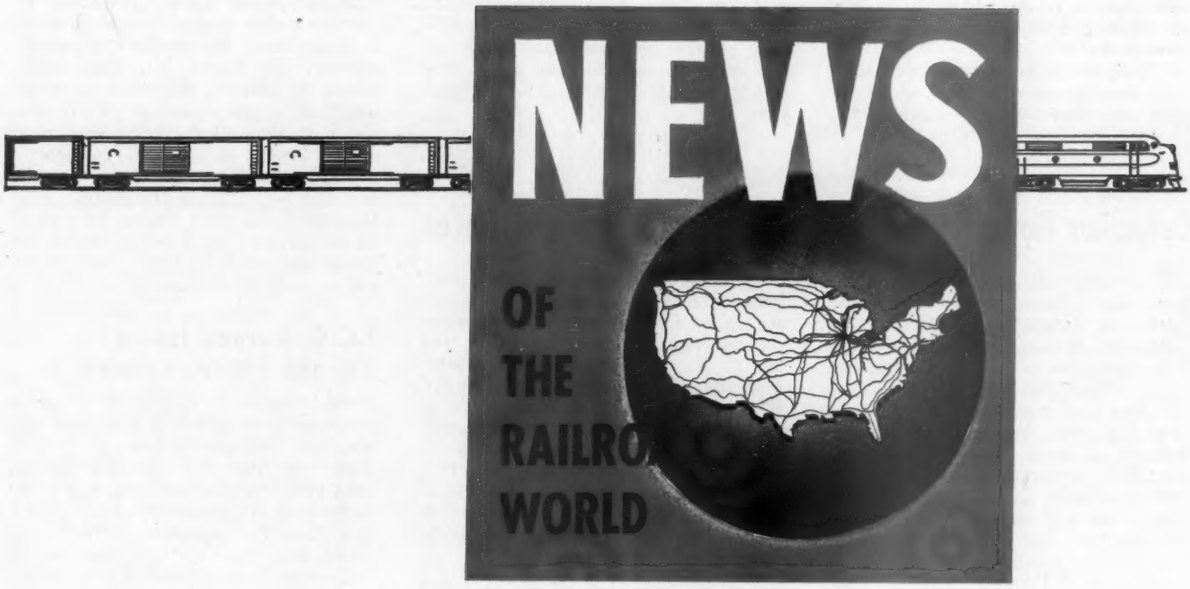
The Monitor-Type cab is also designed for the safety and comfort of the operator. All controls are conveniently located and can be easily reached from a comfortable, well-raised seat. There's a soundproof partition between the operator and the machinery. There are doors on both sides of the cab and there's a 14″ safety clearance between car body and rotating upperworks.

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Alldredge Says Staley Has Misconception of Section 4

Following publication in *Railway Age* (November 5, page 13) of a news story outlining a criticism by J. R. Staley, (vice-president of the Quaker Oats Company, and a member of the National Industrial Traffic League's committee on rates and tariffs) of the Interstate Commerce Commission's administration of Section 4 of the Interstate Commerce Act, Commissioner J. Haden Alldredge made the following comment:

"Such statements as this are unfortunate because they do not reveal the facts and manifest a misconception of the law and its purpose.

"The fourth section was incorporated in the act after a long fight by the intermountain states and it received as much consideration by Congress as any other feature of the law. A specific duty was laid upon the commission to carry out the policy of Congress expressed in this section of the act. The commission is specifically enjoined by Section 4 to prescribe the extent to which a railroad may be relieved from the operation of the long-and-short-haul rule, and it is required, in exercising the authority conferred upon it, to see that no departure is made under a rate or charge to or from the more distant point that is not reasonably compensatory for the service performed.

"There is no escape by the commission from the necessity of making this determination. Reference to the substitution of the commission's judgment in such matters for that of the carrier is wholly beside the point. Congress has done the substituting when it established the policy which required its effectuation regardless of the judgment of management or anyone else other than the duly appointed body, which is the commission. This duty, of course, is a substantial one and requires the daily attention of a division of the commission and a segment of its staff.

"Changes in rates in response to an acce'eration of business and the competitive influences which flow from it naturally have a tendency to increase the number of applications by the carriers for fourth section relief. Behind these applications, however, are usually the demands of the shippers for new or different rates. The carriers are left free to comply with the principle of the long-and-short-haul clause without asking for relief. They do enjoy the privilege or managerial discretion of either complying with the rule or seeking relief.

"While a staff of employees is necessary to administer the fourth section it does not equal the staff of rate clerks and tariff examiners required in other branches of the commission's rate work.

"As of November 1, 1951, a total of 12 employees, exclusive of four board members and two stenographers, was assigned to the Fourth Section Board, whereas there were 28 rate clerks and tariff examiners engaged in railroad rate and tariff work and 29 rate clerks and tariff examiners engaged in motor rate and tariff work in the Bureau of Traffic.

"The power of suspension was also included in the act by Congress to protect the public interests in the process of rate-making. It is an important part of the plan of regulation. It is historically true, of course, that this provision was first inserted primarily as a protection for shippers against rate changes which might be thought harmful whether by increases directly affecting individual shippers or by reductions in competitive rates which might create unjust discrimination or undue prejudice or preference.

"But the act has been changed, enlarged and extended many times since the original appearance of this provision. In addition, a national transportation policy, expressing the congressional purpose to be accomplished by all parts of the act, has been appended. The increase of competitive forms of transportation has naturally injected into the situation other specific interests looking to the amended act for protection in addition to those of shippers and receivers.

"The national transportation policy has made it plain that competitive transportation agencies also have a right through protests and requests for suspension to seek the protection of the law. The result has been that suspension proceedings have largely increased in recent years and that many of them concern efforts at rate reductions in individual instances, as well as proposals to increase rates. It is the duty of the commission to pass upon all

such requests to the best of its ability and almost always with accelerated promptness.

"There should be nothing unusual in such developments in the minds of those who have closely watched the evolution of our transportation system. It is a natural outgrowth of the application of the congressional policy of regulation to the situation as it constantly unfolds from day to day and from year to year."

Canadian Government Would "Equalize" Freight Rates

Three bills affecting Canadian railroads have been introduced in the House of Commons at Ottawa by Transport Minister Lionel Chevrier. The government's major proposal would amend the Railway Act to pave the way for equalization of freight rates, project benefits accruing to western shippers from the Crow's Nest Pass agreement, and approve an annual subsidy not to exceed $7,000,000 in the aggregate to the Canadian National and the Canadian Pacific to help meet operating costs of lines in northwestern Ontario around Lake Superior (between Sudbury and Port Arthur on the C.P. and between Capreol and Fort William and between Cochrane and Armstrong on the C.N.).

The second bill would require the two chief Canadian railroads to furnish Parliament with information about cooperative projects called for in the so-called Canadian National-Canadian Pacific Act (*Railway* Age, January 27, 1934, page 120). The third bill would preserve the advantages to shippers of the Maritime Freight Rates Act of 1927.

The government's bill for a new freight rate arrangement was challenged before the special committee set up by Commons to hear representations from shippers, the C. P. and the C. N. In a four-hour session before the committee, F. C. S. Evans, C. P. vice-president and general counsel, said the bill was "far too sweeping" and asked for elimination or change of several sections. The C.P. favors the principle of rate equalization across the country as far as it is practicable, Mr. Evans said, but the "broad, sweeping language" of the bill might impel the Board of Transport Commissioners to "try the impossible."

Among Mr. Evans' criticisms of sections of the main bill were the following: (1) The proposed restrictions on freedom of railroads to set competitive rates would "hamstring" the carriers. He proposed an alternative section giving the Transport Board more leeway than contemplated by the contemplated legislation. (2) Abolition of "ceiling" freight rates as proposed is unnecessary and would create a "serious" possibility of exposing railroads to damage suits from shippers seeking rebates. (3) There is "danger" in the statute's direction to the board that a single uniform scale of class rates be set for the whole country. The board, Mr. Evans said, should be allowed discretion to establish "one or more" scales. (4) A provision in the bill decreeing that part of the benefit of the low "transcontinental" rates between eastern Canada and the west coast, competitive with Panama Canal ship routes, be passed on to territory in between might, he contended, result in breakdown of the entire rate structure.

I.C.C. Bureau Issues Freight Revenue Index

The Interstate Commerce Commission has made public a statement setting out "Indexes of Average Freight Rates on Railroad Carload Traffic, 1947-1950," which was prepared in its Bureau of Transport Economics and Statistics. The statement is No. 5156, and it bears the usual disclaimer to the effect that it was issued "as information," and had not been "considered or adopted" by the commission.

The indexes and accompanying report were prepared by R. T. Smith, III, and James G. George, Jr., according to the foreword by Bureau Director W. H. S. Stevens. The report is mainly an explanation of the statistical methods employed. Traffic in 1950 was used as the base, and the indexes by commodity groups are shown in the accompanying table, reproduced from the statement.

Director Stevens explained that the indexes "were prepared by a method designed to approximate a measure-





EIGHT NEW 2-400-HP. TRANSFER LOCOMOTIVES, built by the Electro-Motive Division of General Motors Corporation, are currently going into service on the Union Pacific's California division. For better protection at highway grade crossings, the U.P. has specified extensive use of "Scotchlite" reflective paint on both the "cow" and "calf" units of the locomotives. In the closeup view the mechanic is operating the "calf's" starting switch located behind a drop panel directly below the glass-enclosed instrument panel. This panel is readily visible from the cab of the "cow" adjoining. If conditions require the locomotive to be operated "light," the engineman may isolate either unit and proceed under 1,200-hp. When fully loaded with fuel, cooling water, lubricating oil and sand, the units weigh a total of 248 tons. A gear ratio of 62:15 permits a maximum operating speed of 65 m.p.h. Six of the 2,400-hp. locomotives are being assigned to yard and transfer duties at San Bernardino, while the remaining two will perform helper and heavy switching work at Kelso. Collectively, they represent an investment of $1,720,000

INDEXES OF AVERAGE FREIGHT RATES FOR INTER- AND INTRASTATE RATES BY COMMODITY GROUP (1950-100)

Item	Index 1947	1948	1949	1950	Percent increase over 1947 1948	1949	1950	Approx. Standard deviation
Interstate rates								
All commodities	79	93	99	100	17	25	26	.5
I. Products of Agriculture	80	93	98	100	17	23	25	.5
II. Animals and Products	77	93	99	100	21	29	30	.5
III. Products of Mines	82	91	98	100	11	19	21	.5
IV. Products of Forests	78	92	98	100	18	25	28	.5
V. Manufactures and Miscellaneous	78	94	101	100	20	29	28	.5
Intrastate rates								
All commodities	82	93	99	100	14	21	22	.5
I. Products of Agriculture	80	92	97	100	15	22	26	1.0
II. Animals and Products	83	96	98	100	16	18	20	1.5
III. Products of Mines	84	93	99	100	10	18	19	.5
IV. Products of Forests	84	95	98	100	13	17	19	1.0
V. Manufactures and Miscellaneous	80	95	100	100	18	25	24	.5

ment of the changes in revenue due solely to changes in rates." The basic data were derived from published statements of the bureau's waybill-study series; and the 1950 base was used because it was the first year since the waybill work began in which no general rate increases occurred. The bureau plans to continue the indexes "with such shifts from time to time in the base year as changing conditions may warrant," Director Stevens also said.

Figures in the "approximate standard deviation" column of the accompanying table indicate the "normal" margin of error to be expected because the one-per-cent sample of the waybill studies was used. "In other words," as the report put it, "the indexes shown here may be either greater or less than similar indexes computed from all the traffic. The possible magnitude of these differences is indicated by the applicable standard deviation which should be considered when making comparisons between the various indexes."

The statement also contains other tables showing composite indexes of interstate and intrastate traffic by commodity groups and selected commodity classes, and by territorial movements.

Illinois Okays 6% Freight Rate Increase

The Illinois Commerce Commission has authorized an increase of six per cent on railroad intrastate freight rates. Most of the roads concerned planned to put the new rates in effect on November 3. The roads had sought a nine per cent boost to match that granted by the Interstate Commerce Commission under Ex Parte 175, but the Illinois body held the increase to two-thirds of that figure.

Rentzel Quits Transport Post at Commerce Dept.

Delos W. Rentzel, under secretary of commerce for transportation since last May, has resigned "for urgent personal reasons." The resignation has been accepted by President Truman, effective November 20.

Mr. Rentzel took the oath of office as under secretary May 7. He succeeded Major General Philip B. Fleming in the transport post. He had previously served as chairman of the Civil Aeronautics Board and as Civil Aeronautics Administrator.

In reply to Mr. Rentzel's letter of resignation, President Truman said he regretted to see the under secretary leave because of his "outstanding service" to the government. Mr. Rentzel had requested that he be relieved of duty effective November 1.

Mr. Rentzel's principal assistant has been P. A. Hollar, the deputy under secretary for transportation. Mr. Hollar, on leave from the American Car & Foundry Co., joined the Commerce Department last April.

Wintertime Florida Ticket Cancellations

The Pullman Company has announced special regulations governing redemption of sleeping car tickets for accommodations in trains serving resort regions of Florida. The regulations will remain in effect — as they have in the past — for the duration of the coming winter travel season.

In effect, ticket agents may redeem tickets from northern terminii to destinations south of Jacksonville only if they are presented for cancellation not later than the third day preceding departure of the train for which they have been sold. J. J. Nolan, passenger traffic manager of Pullman, said the regulations—which force cancellation of unneeded space and permit its orderly reassignment to other passengers—had received wide support from the traveling public and from Florida interests.

Four Agencies Oppose Reopening Ex Parte 175

Four federal agencies last week asked the Interstate Commerce Commission to deny the railroad request for reopening and further hearing in Ex Parte No. 175. The agencies are the Office of Price Stabilization, Department of Commerce, General Services Administration, and Tennessee Valley Authority.

The agencies told the I.C.C. that a single month of operation is insufficient time upon which to accurately appraise the effect of increases already granted. Those increases, averaging about 6.6 per cent for the nation as a whole, became effective August 28 (*Railway Age*, August 20, page 55).

The roads have since asked the commission to reopen the case on grounds that expenses have continued upward and revenues have declined. Carriers want the full 15 per cent increase requested in their petition filed last March.

No condition of general emergency in railroad transportation exists at this time which would require reopening Ex Parte 175, the agencies contended. They said findings based on operating data which did not include the last four months of 1951 would be "speculative," and advocated that data for a still longer period be required.

The four agencies have been active in opposing the railroad petition for increased rates throughout the Ex Parte 175 proceeding.

More Time for Briefs In Reparations Cases

The Interstate Commerce Commission has set back, from December 17 until March 18, 1952, the due date for briefs in the so-called reparations cases. Those cases are 17 proceedings based on complaints whereby the federal government is seeking to recover alleged overcharges which it claims the railroads assessed on its shipments of various commodities during World War II. (*Railway Age* of May 14, page 92.)

Two Streamliners in Rear End Collision

In a rear end collision November 12, the Union Pacific's "City of Los Angeles" streamliner was struck by the following "City of San Francisco" at Wyuta (Wyoming-Utah state line). The accident resulted in the death of at least 16 passengers and crew-members and serious injuries to seven others. Minor injuries were sustained by 48 persons, most of whom were aboard the "City of Los Angeles."

The accident occured in what the U.P. has described as a "ground blizzard." Visibility was very poor and driving snow accumulated on block signal lenses obscuring the indications.

A company spokesman told *Railway Age* the eastbound "City of Los Angeles" initially stopped at a signal west of Wyuta while a freight train headed into Wyuta siding to clear both the "City of Los Angeles" and the "City of San Francisco" which was following about 10 minutes behind. The "City of Los Angeles" proceeded after the freight had cleared but the next block signal (at Wyuta) was so badly obscured by driven snow that the engineer found it necessary to stop to determine its aspect before proceeding. The engineer had just established that it was "clear" and

had opened the throttle to first position when his train was struck from behind by the following "City of San Francisco." The impact of the crash virtually destroyed the last four cars of the leading train, the three-unit diesel locomotive of the "City of San Francisco," and a number of cars in the freight on the passing siding.

At *Railway Age* press time, the official toll was 16 known dead, but several persons were reported missing and it was possible that other victims would be found as wreckage was cleared. Leakage of diesel fuel hampered clearance operations by precluding use of acetylene torches.

U.P. President A. E. Stoddard issued a statement at noon, November 13, portions of which follow:

"The safety chairman of the Interstate Commerce Commission in Washington, D. C., and other government officers have been notified of the accident and an investigation will begin at a place to be selected by the commission as soon as word is received from Washington.

"At the present time we do not know what caused the accident. The one man who may have the answer is John Brandstitter, fireman on the 'City of San Francisco' and the only surviving member of the locomotive crew whose train plowed into the rear of the 'City of Los Angeles.' Mr. Brandstitter is seriously injured, but it is hoped that he can be interrogated today.

"In the meantime we can only presume that the ground blizzard which gripped the Wyuta area at the time of the crash was a major contributing factor in the disaster."

FORTUNE MAGAZINE CITES JOHN BARRIGER

The magazine Fortune takes note of John W. Barriger as the "Champion of Super Railroading" in its business personalities section called "People" (page 119 of its November issue). Beneath an informal portrait taken by the pilot of a Monon diesel locomotive, "Fortune" had this to say about Mr. Barriger:

"John W. Barriger, 51, is the nation's leading advocate of 'super railroading.' Given his way, he would probably consolidate and modernize every U. S. railroad, have 100-m.p.h. streamlined dieselized trains highballing everywhere. That kind of operation, he says, is the only thing that can save the railroads.

"Five years ago Barriger took over the bankrupt Chicago, Indianapolis & Louisville, known as the Monon, a short line that had been in trusteeship for 13 years. He launched a $25-million, five-year modernization program, proved himself a super salesman, and brought the Monon out of the woods.

"Barriger is an M.I.T. graduate and a lifelong railroad enthusiast. He reorganized the Chicago & Eastern Illinois, in the Thirties, became president of the Monon in 1946. Despite his success, the line doesn't provide a real test for Barriger's theories. He says that if U. S. railroading was as it should be he wouldn't be president of the Monon—he would only be a superintendent on a major system."

Equipment Depreciation Rates Prescribed for P.R.R.

Depreciation rates for the Pennsylvania's equipment were among those prescribed by the Interstate Commerce Commission in a recent series of sub-orders in the general proceeding—"Depreciation Rates for Equipment of Steam Railroad Companies."

The sub-order applicable to the P.R.R. is No. 247-A, and the depreciation rates it prescribes are: Steam locomotives, 3.27 per cent; other locomotives, 4.13 per cent; freight-train cars, 2.18 per cent; passenger-train cars, 2.86 per cent; floating equipment, 2.65 per cent; work equipment, 2.33 per cent; miscellaneous equipment, 11.47 per cent.

The commission's statement showed that total ledger value of P.R.R. equipment involved was $891,696,867.

Truman Okays Broader Retirement Benefits

As a result of President Truman's approval of the bill to increase benefits under the Railroad Retirement Act, the Railroad Retirement Board has estimated that 250,000 retired employees will receive increases averaging 30 per cent, and that 150,000 survivors of deceased employees will find monthly benefits boosted an average of 45 per cent. The board said the first checks reflecting the new increases would be mailed about December 1 and that other increases would be put into effect as soon as possible thereafter. Beneficiaries need take no action until notified by the board.

The new law does not change the tax-rate schedule.

The board listed the following as the principal changes to take effect:

(1) Retirement benefits will first be raised by 15 per cent. Higher payments will go to all persons now on the rolls and will apply to all those who retire in future. The maximum annuity payable will rise from $144 to $165.60 a month.

(2) A monthly benefit will be allowed for the wife of a retired employee over age of 65 if she is also over that age or has children under 18. This benefit amounts to 50 per cent of the retired employee's benefit up to a maximum of $40. The maximum payable to a man and wife will be $205.60. But eventually combined benefits above $250 will be possible.

(3) Service after age of 65 is now creditable toward retirement. But the most service that can be counted when service before 1937 is included is still 30 years.

(4) Monthly benefit payments to survivors of deceased employees will be increased by 33 1/3 per cent and lump-sum death payments by 25 per cent. The maximum amount payable to a family will rise from $109 to $160 a month.

(5) A survivor will now be permitted to earn $50 a month in social security employment without losing that month's annuity pay.

(6) Retirement and survivor benefits paid under the railroad system, together with any social security benefits which may be payable, will in no case be less than the benefit the social security system would have paid if railroad employment were covered by that system. In many cases this will produce increases over and above those mentioned.

(7) In the future, employees who retire with less than 10 years of railroad service, and survivors of those who die with less than 10 years of service, will receive their benefits under the Social Security Act just as though railroad service had been performed under that act.

(8) A reduction will be made in the amount of retirement benefits payable to an employee who is also entitled to a retirement benefit under the social security system and who worked in railroad employment before 1937.

G. H. Baillie Addresses New England RR Club Dinner

United States business men alone invested $1,000,000,000 in Canada last year, spurred chiefly by tremendous oil and mineral developments in Alberta and Labrador, George H. Braillie, vice-president of the Canadian Pacific's Eastern Region, said on November 14 in an address at the New England Railroad Club's annual dinner in Boston marking "Canadian Night." Mr. Braillie described how Canada 70 years ago sprang almost overnight from struggling childhood to full manhood through construction of the transcontinental C. P. and how that carrier played a major part in making the Dominion the world's third largest trading nation.

Today, Mr. Braille said, the C. P. is a 20,000-mi. rail system, and has spent $128,000,000 in the last three years for new equipment. He described the C. P. as "An important vertebra in Canada's Backbone," adding that in 1880 the very thought of building such a railroad was staggering and as an enterprise had nothing to recommend it except the visions of men who saw a line of empire and a highroad to carry the riches of the Orient to the markets of Britain and Europe.

G.N. Takes Over Pacific Coast Road

For $1.7 million the Great Northern, on October 31, became owner of all capital stock of the 32-mi. Pacific Coast. The G.N. immediately took over management of the line, although the P.C. will continue to have its own corporate identity and will be operated as an independent system. The transfer of ownership occurred in Seattle, Wash., when former officers and directors of the Washington short line resigned and were succeeded by Great Northern personnel.

The Milwaukee has utilized trackage rights over that portion of the P.C. from Maple Valley, Wash., to Seattle for its main line trains for many years. These rights are not affected by the change of ownership.

In a statement to the Washington press following the October 31 meeting, Thomas Balmer, G.N. vice-president and general counsel, who was elected also president of the P.C. said the local character and traditions of the short line would be maintained but that it would be given the benefit of G.N. management and enterprise. "It fits very nicely into our operations by making a good yard and additional trackage available to us in the south end of Seattle, and an entrance into Renton, one of the most rapidly growing parts of the Seattle industrial area. With a staff of local men in charge, we think we can quickly modernize the operations and bring the little road up to its traffic possibilities as part of a strong rail system."

The P.C. was the first rail line in Seattle. Initially known as the "Seattle & Walla Walla" and later as the "Columbia & Puget Sound," it was originally projected to cross the Cascade mountains to connect with other lines not projected beyond the eastern part of the state.



NOW THEY HEAD THE PACIFIC COAST ROAD in addition to their duties on the Great Northern. Shown here after a corporate meeting in Seattle are the P.C.'s new executive officers, left to right: I. E. Manion, vice-president in charge of operations (general manager of G.N. lines West); Thomas Balmer, president (G.N. vice-president and western counsel); and R. P. Starr, vice-president and traffic manager (G.N. western traffic manager)

"No Serious Tank Car Shortages—If . . ."

Defense Transport Administrator James K. Knudson, speaking before the transportation division of the American Petroleum Institute, said that "if carbuilding facilities can be operated at capacity, we shall have no serious tank-car shortages this winter for petroleum, *provided*: We have the utmost cooperation from your industry in loading cars promptly and having them released by your consignee promptly when unloaded; and provided that some unforeseen international development does not change the whole picture overnight."

Mr. Knudson said that unless there were to be uneconomic surpluses of tank cars at other times, there would never be enough such cars to go around in a crisis. He told the petroleum transport men that 4,246 new tank cars had been added to the fleet since the first of the year and that he felt the remaining cars currently on order would be adequate for "the foreseeable needs of the petroleum and other industries using tank cars." The big problem, he said, is to get the cars on order built and in operation as soon as possible.

Mr. Knudson foresaw two potential causes of tank car shortages. The first: "Where new production facilities are completed, but new tank cars have not been built, although on order." The second: "When unusually high seasonal peaks develop, for example: Extremely cold winter weather with icy roads, frozen waterways, deep snows, etc., which increase the need for heating fuels and decrease the ability of transportation to deliver them."

"If other forms of transportation should fail you," he said, reminding his audience of the diversion of coastal tankers during the past war, "railway cars would suddenly be called upon to replace or augment other forms of transport, and there will not be enough tank cars to go around."

The transportation division meeting, before which Mr. Knudson spoke on November 7, was a portion of the 31st annual meeting of A.P.I. in Chicago.

Delos W. Rentzel, undersecretary of commerce for transportation, told the A.P.I. meeting the transportation industry, as well as the petroleum industry, is faced with many problems. "For example," he pointed out, "the task of assuring continuous movement of petroleum products *from* the oil industry to both military and civilian consumers in the event of sudden and unexpected demands, poses a knotty problem. It can be accomplished now, through certain specialized actions. But, on the other hand, the task of assuring a continuous movement of machinery and equipment *to* the oil industry is currently with us."

"With the acceleration of the mobilization program the shortage of diesel locomotives, freight cars, tank cars, tank barges, tank trucks, merchant marine vessels, especially tankers, is being increasingly felt," Mr. Rentzel said. "Railroads require new rails and added maintenance because of increased use. . . . The railroads are faced with growing shortages. To meet this need construction plans for the fourth quarter of this year included some 900 diesel locomotives, 2,500 tank cars and 30,000 freight cars. This level of construction must be maintained for some time."

Repairs to Close Illinois Waterway

Repairs to the Marseilles lock on the Illinois river will close the Illinois waterway to navigation between Chicago and all points on the Mississippi system about January 14, 1952. Affected are all carload, l.c.l., truckload and l.t.l. shipments which must be shipped via other routes. Bargeload freight is not embargoed but is subject to booking provisions of tariffs.

B. & O. Asks Cooperation On Difference Statements

The Baltimore & Ohio, through its auditor of freight traffic, Harry Bransky, has asked that other roads cooperate with it to cut the expense of handling statements of differences and correction accounts. This program involves a process for converting the s/d form into a unit correction account. According to Mr. Bransky's letter to other railroad accounting officers, dated October 8, the B. & O. is now using a "white print process demonstrated at the annual meeting of the Railway Accounting Officers in New York in June. This process helps us



The new "Ozamatic" white printer, produced by the Ozalid division of General Aniline & Film Corp., is used by the Baltimore & Ohio in converting the statement of differences to a unit correction account

because it is faster and cheaper. The copies are on paper which are thin enough to facilitate binding. The paper has dark writing on a light background. You receive a complete and exact copy of the statement of differences and all subsequent work which has been done on it." More than 120 roads have agreed to accept these copies, *Railway Age* has learned.

Mr. Bransky's letter went on to say that the B. & O. had encountered two difficulties in employing the process successfully: (1) faintly visible information on the statement of differences, or use of colored ink or pencil, which "cannot always be copied successfully"; (2) paper of high opacity, which makes for non-transparency; the paper needed for successful reproduction should be highly transparent. Mr. Bransky said he hoped "the information entered on your Statements of Differences will be written in black with a #2, or softer, pencil. If typed, black ribbon or carbon should be used. We also hope that you will specify the paper be less than 16 lb., without watermark, and with an opacity rating of less than 60 per cent, when you next print these forms. . . Paper with these characteristics is available at no increased cost."

A postscript to Mr. Bransky's letter said it had been signed using a No. 2 pencil and reproduced by the white print process.

I.C.C. Orders Potomac Boat Line to Carry Negroes

Division 3 of the Interstate Commerce Commission has issued an order requiring a Potomac river excursion line to cease and desist from practicing "undue and unreasonable prejudice" against Negroes. The order accompanied the division's report in a case docketed as No. 30769, *Helena Haley et al. v. Wilson Line Operating Company*.

The report found that Complainant Haley and three co-complainants had been subjected to "unreasonable prejudice and disadvantage" by reason of defendant's refusal to sell them tickets or allow them passage on its vessel operating between Washington, D. C., and Mount Vernon, Va. The complaint's plea for awards of $10,000 reparations for each complainant was rejected.

Seatrain Gets Temporary N.Y.-Savannah Rights

The Interstate Commerce Commission has granted temporary authority to Seatrain Lines to institute common carrier service by water between New York and Savannah, Ga. The temporary authority extends to May 11, 1952, and meanwhile the commission will study whether to make the authorization permanent.

The commission decision was 6-to-3, with Commissioners Rogers, Johnson, and Mitchell dissenting and Patterson and Cross not participating.

"We find that there is an immediate and urgent need for applicant's proposed service as a common carrier by self-propelled vessels in the transportation of commodities generally between the ports of New York and Savannah," the commission said. It added that at present "there is no carrier service capable of meeting such need."

Railroads in the South and East, except Central of Georgia and New York, Susquehanna & Western, opposed Seatrain's application. The water carrier mustered the support of many shippers, and the commission said their statements indicate shipper need for the coastwise service.

Seatrain already holds authority to operate between the ports of New York, New Orleans, La.; and Texas City, Tex. The carrier's fleet consists of six vessels, with one more to be added in the near future.

As noted in *Railway Age* of October 22, page 58, Seatrain only recently asked the I.C.C. for authority to institute New York-Savannah service on the basis of "public convenience and necessity." Previously, the water carrier had sought authority to purchase rights held by the Ocean Steamship Company, a Central of Georgia subsidiary. This application was withdrawn after the commission denied requests for temporary approval of the puchase.

Air Service for "Great Majority" Is C.A.B. Aim

The Civil Aeronautics Board believes "the people of the United States are entitled to expect development of our air transportation system to the point where transportation by air will be within reach of the great majority of the people rather than those of higher incomes." The board made a policy declaration to this effect in a recent decision which nevertheless denied applications of four non-scheduled air lines for authority to conduct transcontinental air-coach services.

The adverse ruling was based on the board's determination than its air-travel-for-the-masses objective should be achieved through development of coach services by regularly scheduled, certificated air lines. In this connection, the decision reflected the board's view that coach services should be a "component part" of certificated operations—not merely something "supplemental" to such operations.

Unsuccessful applicants in the present proceeding, known as the "Transcontinental Coach-Type Service Case," were: Air America; Trans-American Airways; California Eastern Airways; and Great Lakes Airlines.

"General Commodities," "Farm Supplies," Not Same

Division 5 of the Interstate Commerce Commission has refused to modify common-carrier trucking certificates to authorize transportation of "general commodities" where carriage of "farm supplies" is now authorized. The commission's report was in No. MC-95535, and the certificates involved are held by Cleo Crouch of St. Joseph, Mo.

The decision was in line with previous commission determination in cases involving certificates authorizing transportation of "packing-house and dairy supplies," and "contractors' supplies." Interveners in opposition to the proposed modification of the cer-

tificates included the Atchison, Topeka & Santa Fe and the Chicago, Burlington & Quincy.

D.T.A. Amends Procedures For Building Applications

Defense Transport Administrator James K. Knudson has amended the order which sets up procedures for processing applications for construction projects in domestic transport and storage. The order is Administrative Order DTA and the amended version became effective November 8.

Procedures involved are those whereby D.T.A. exercises authority delegated to it by the National Production Authority to process applications required under NPA Order M-4A and CMP Regulation 6. Principal change made by the amended order is in the time for filing applications to secure allotments of controlled materials.

The original order requested such applications be filed at least 75 days, before the beginning of the calendar quarter in which materials are to be delivered. The amended version requests that such applications be filed at least 105 days before the beginning of the quarter.

The order also eliminates provisions for filing with and processing by D.T.A. of applications or requests for exceptions, adjustments, or relief from prohibitions in NPA Order M-4A against use of copper and aluminum. Such presentations must now be filed with N.P.A.

American University Plans Fourth Traffic Institute

The American University, Washington, D. C., will conduct its Fourth Institute of Industrial Transportation and Traffic Management from January 8 through January 25, 1952. Like its predecessors, the institute's course will be under direction of Dr. L. M. Homberger, professor of transportation at the university.

It has been organized with Executive Secretary E. F. Lacey of the National Industrial Traffic League acting as consultant, and with the cooperation of the Army's chief of transportation, the Air Force's director of transportation, and the chief of the Navy's Bureau of Supplies and Accounts. In addition to Dr. Homberger, the faculty will be composed of industrial traffic managers, railroad executives, and representatives of transportation organizations and government agencies.

The group will include Major General F. A. Heileman, the Army's chief of transportation; Arthur H. Gass, chairman, Car Service Division, Association of American Railroads; C. S. Baxter, chairman, Railroads' Tariff Research Group; K. N. Merritt, vice-president, Railway Express Agency; W. M. King, assistant vice-president, Southern; J. G. Kerr, chairman, Southern Freight Association; E. E. Foulks, superintendent of transportation, Atchison, Topeka & Santa Fe; J. R. Staley, vice-president, Quaker Oats Company; Ford K. Edwards, director, Bureau of Coal Economics, National Coal Association and former director of the Interstate Commerce Commission's Bureau of Accounts and Cost Finding; William E. Hayghe, director, Traffic Management Division, Federal Supply Service, General Services Administration; Kenneth L. Vore, director, Military Traffic Service, Department of Defense.

Also, there will be three supper meetings and a luncheon session. The latter, sponsored by the American Society of Traffic and Transportation, will be addressed by G. Lloyd Wilson, chairman, Transportation and Public Utilities Department, Wharton School of Finance and Commerce, University of Pennsylvania.

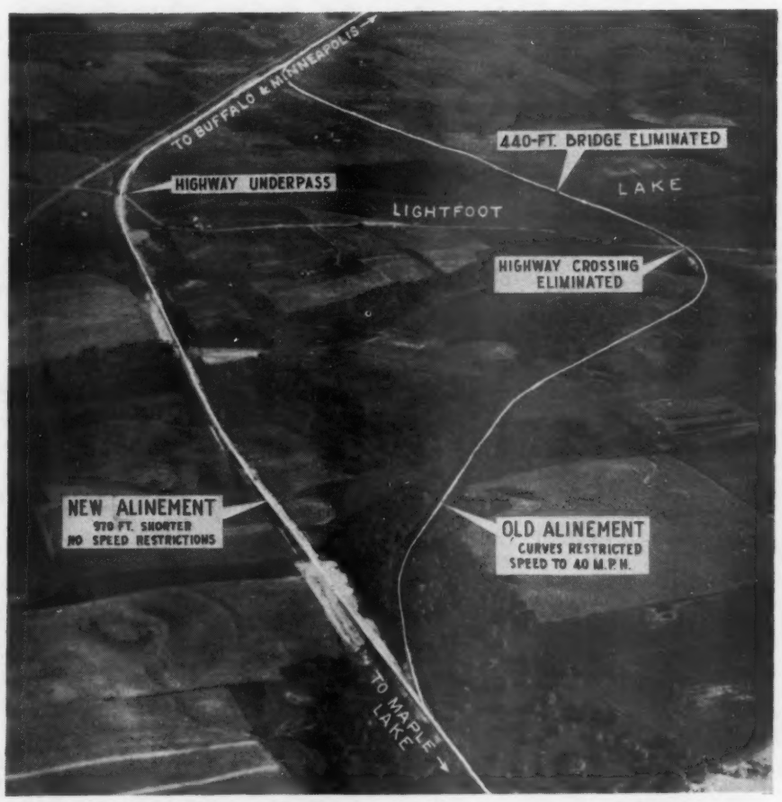
Speakers at the supper meetings will be Chairman Walter M. W. Splawn of the I.C.C.; Major General Heileman; and Raymond B. Kirsner, assistant to under secretary, Department of Commerce. Executive Secretary Lacey of the N.I.T. League will speak at the closing dinner.

The university's announcement said that students for the institute may be selected by their employers, and that others may apply by submitting information about their educational background and business experience. No specific previous education is required, and there is no age limit.

The tuition will be $90. Applications for admission should be sent to Dr. Homberger, the American University, 1901 F street, N.W., Washington 6, D. C. The last registration day will be January 3, 1952.

10,082 Freight Cars Delivered in October

New freight cars for domestic use delivered in October totaled 10,082, the American Railway Car Institute and the Association of American Railroads have jointly announced. This was the first time monthly deliveries reached 10,000 cars since April 1949, the announcement added. Orders for 3,464 freight cars were placed in October and the backlog of cars on order



SOO LINE track relocation some 50 miles west of Minneapolis will eliminate curvature, speed restrictions, a 440-ft. wood trestle and a grade crossing, and will shorten the line by one-fifth of a mile. Known as the Buffalo (Minn.)-Maple Lake relocation, the project eliminates 2.46 miles of main track (on the right in the photo) and substitutes a more direct line with a lesser grade. A highway underpass (upper left) is being constructed in connection with the project. Construction of the new line involved movement of 200,000 cu. yd. of earth. Started in May of this year, the work is scheduled for completion in June 1952. The estimated over-all cost to the Soo Line is $220,000

Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ending November 10 were announced by the Association of American Railroads on November 15 as follows:

	Surplus	Shortage
Plain Box	141	2,078
Auto Box	26	51
Total Box	167	2,129
Gondola	—	2,700
Hopper	—	3,677
Covered Hopper	—	15
Stock	530	146
Flat	—	672
Refrigerator	1,991	10
Other	247	85
	2,935	9,434

and undelivered was 132,792 on November 1, the announcement said. The accompanying table gives a breakdown of cars ordered and delivered last month and of cars on order on November 1.

Type	Ordered Oct. 1951	Delivered Oct. 1951	On Order & Undelivered Nov. 1, 1951
Box—Plain	264	4,413	42,196
Box—Auto	...	269	683
Flat	91	286	3,294
Gondola	1,500	2,538	23,627
Hopper	563	759	39,647
Covered Hopper	600	375	5,284
Refrigerator	...	590	5,957
Stock	...	7	993
Tank	446	810	9,737
Caboose	...	24	436
Other	...	11	938
Total	3,464	10,082	132,792
Carbuilders	1,937	6,777	88,666
Railroad Shops	1,527	3,305	44,126

"Spanish Prisoner" Racket

Readers of *Railway Age* who are listed in "Who's Who in Railroading" are currently receiving unsigned typewritten letters, mailed from Mexico City, which are worded along the lines of the historic "Spanish prisoner" swindle. The writer of the letters claims to be in prison, and to need help in securing the release from the customs of baggage containing a large amount of currency. For helping him the recipient of the letter is promised a tempting share of the currency. The "catch" of course is that the required "help" includes a cash advance for "expenses."

Col. Bingham Has Plan for Joint Control of Transport

"The time may come when it will be deemed advisable by some to consider nationalization of the main-line railroads," S. H. Bingham, chairman of New York City's Board of Transportation, said in St. Louis on November 9. "Should this time arrive," he added, "I strongly urge that the advantages of the Bingham formula, which includes the recommendation that control remain in the hands of existing experienced private management, be fully explored."

His formula, Colonel Bingham explained, "would combine the best features of private and municipal enterprise. Privately owned transit properties would be acquired by a city or state in return for revenue bonds issued for a specific term. Interest and amortization and operating expenses would be met out of fares. With tax exemptions and this type of financing, total costs would probably be low enough to enable retention of a competitive rate of fare. Direction and operation of the enterprise would remain in the hands of the existing private management, with overall control vested in a board of directors. The board would have government and bondholder representation and would consist of men outstanding in the community and well versed in the operation of business enterprises. Private management would remain in control, providing the balance sheet and operating statement show it to be successful and alert. It would be given sufficient authority to run the property in the most efficient manner possible. The setup would be conductive to the operation in the best traditions of private enterprise."

Col. Bingham pointed out that although his "formula" is a result of "long and detailed study" of the mass transportation problems of American cities, it is "a known fact that the Class I railroads have not escaped some of the economic difficulties which beset the rapid transit industry today. . . . In an article published in *Railway Age* in January 1949 [January 29, 1949, page 270] I made recommendation for improvements in suburban rail service. While suburban railroad service was developed by existing main-line railroads such service, for miles into the suburbs, more and more resembles that on the rapid transit lines of a large city in traffic density and peak loads in the morning and evening. For this reason operators of suburban lines might well adopt some of the practices of the city rapid transit lines working toward joint operation between existing suburban and city lines."

New Joint Meetings Held On Engineers' Wage Case

For the first time in several months, joint meetings were held last week between representatives of railroad management and the Brotherhood of Locomotive Engineers, one of the three operating unions involved in unsettled and long-stalemated wage and rules cases. The meetings were held in Washington, and the B. of L.E. spokesman was Grand Chief Engineer J. P. Shields.

The other two unions involved in the stalemated cases are the Order of Railway Conductors and the Brotherhood of Locomotive Firemen & Enginemen. The latter recently posed a strike threat against four roads, and President Truman appointed an emergency board to investigate the situation. (*Railway Age* of November 12, page 14.)

Freight Car Loadings

Loadings of revenue freight in the week ended November 10 totaled 791,403 cars, the Association of American Railroads announced on November 15. This was a decrease of 46,340 cars, or 5.5 per cent, compared with the previous week; a decrease of 48,477 cars, or 5.8 per cent, compared with the corresponding week last year; and an increase of 155,580 cars, or 24.5 per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended November 3 totaled 837,743 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, November 3

District	1951	1950	1949
Eastern	138,828	147,045	107,349
Allegheny	168,637	171,210	87,718
Pocahontas	65,775	64,352	18,682
Southern	136,245	137,034	98,925
Northwestern	122,912	137,564	78,797
Central Western	140,061	138,388	126,798
Southwestern	65,285	67,556	60,712
Total Western Districts	328,258	343,508	266,307
Total All Roads	837,743	863,149	578,981
Commodities:			
Grain and grain products	54,895	58,670	55,862
Livestock	16,114	14,460	16,105
Coal	161,926	153,805	53,411
Coke	16,656	15,865	3,862
Forest products	45,522	46,575	39,992
Ore	59,624	67,983	7,423
Merchandise l.c.l.	75,617	88,082	89,144
Miscellaneous	407,389	417,709	313,182
November 3	837,743	863,149	578,981
October 27	863,961	887,935	591,315
October 20	886,648	891,230	589,088
October 13	868,683	888,889	583,948
October 6	858,750	863,903	574,228
Cumulative total 44 weeks	34,658,033	32,893,965	30,730,538

In Canada.—Carloadings for the week ended November 3 totaled 84,967 cars, compared with 88,260 cars for the previous week, and 88,523 cars, for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
November 3, 1951	84,967	34,464
November 4, 1950	88,523	36,649
Cumulative totals for Canada:		
November 3, 1951	3,544,687	1,521,286
November 4, 1950	3,280,537	1,380,358

MORE NEWS ON PAGE 69

Additional general news appears on page 69 followed by regular news departments, which begin on the following pages:

Equipment & Supplies	72
Organizations	72
Supply Trade	74
Construction	75
Abandonments	75
Car Service	78
Financial	78
Railway Officers	81

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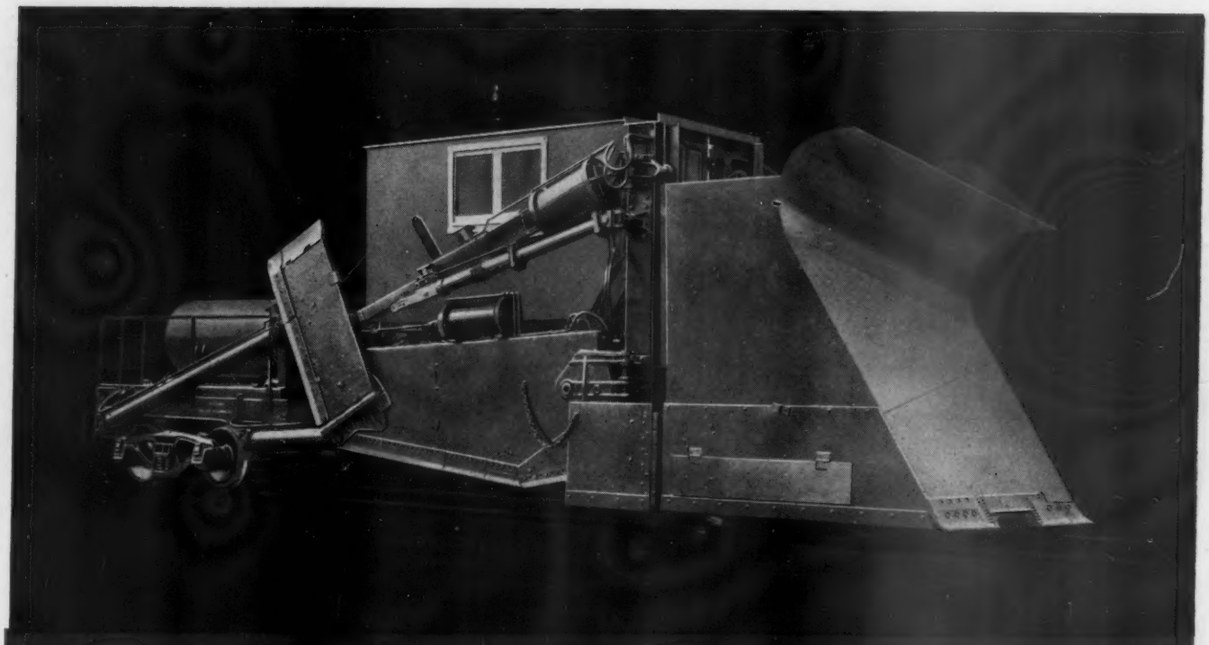
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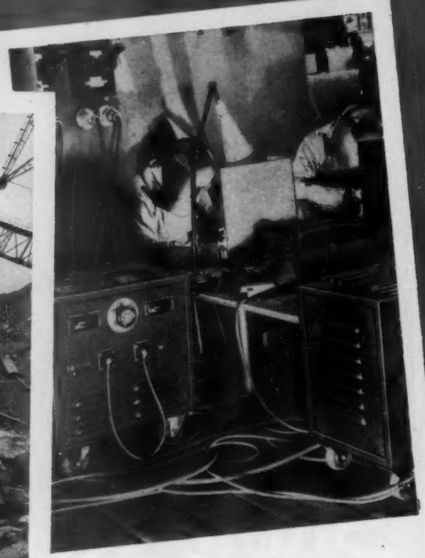
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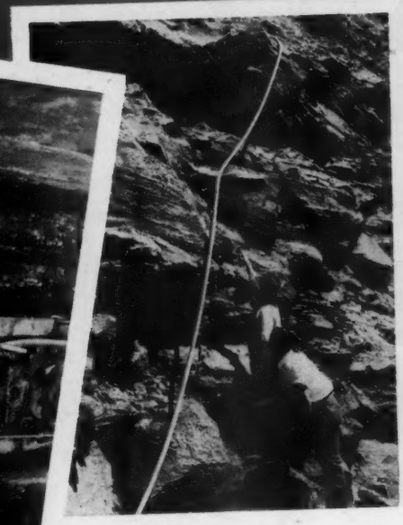


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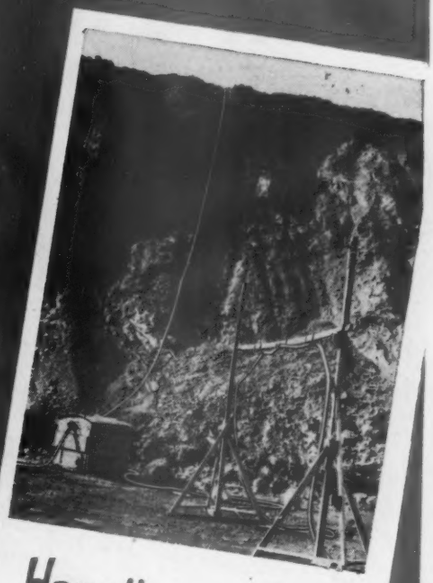
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UNITED STATES STEEL

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Akron, Canton & Youngstown	Sept.	171	479,680	.....	498,934	68,055	29,545	45,631	143,062	314,492	63.0	184,442	78,417	—40,476	—26,242
	9 mos.	171	4,107,233	554	4,265,075	625,888	430,443	309,064	1,265,146	2,893,632	67.8	1,371,443	611,400	498,171	543,010
Atchison, Topeka & Santa Fe System	Sept.	13,096	33,013,347	4,706,305	41,415,938	6,850,673	7,112,960	1,060,760	15,219,797	32,225,406	77.8	19,190,532	4,940,657	4,688,022	8,042,316
	9 mos.	13,096	340,061,851	38,893,682	411,286,736	69,289,574	80,834,979	10,210,157	139,873,939	317,752,820	77.26	93,533,916	54,250,501	37,459,517	51,312,289
Atlanta & St. Andrews Bay	Sept.	82	265,267	2,291	273,721	32,625	16,751	7,756	60,588	130,735	47.8	142,986	71,978	46,768	61,739
	9 mos.	82	2,591,455	18,968	2,674,344	304,200	182,159	72,895	553,624	1,239,230	46.3	1,435,114	763,525	428,483	466,968
Atlanta & West Point	Sept.	93	263,990	39,013	339,073	41,833	59,337	15,143	152,760	293,636	86.6	45,437	25,241	5,793	42,157
	9 mos.	93	2,527,574	443,093	3,335,442	424,176	507,985	139,776	1,470,674	2,763,873	82.9	571,569	306,248	93,911	125,236
Western of Alabama	Sept.	133	262,551	37,339	332,313	35,674	64,042	15,640	131,657	269,652	81.1	62,661	38,316	22,849	56,084
	9 mos.	133	2,694,713	429,861	3,390,232	468,966	568,516	142,944	1,267,174	2,654,060	78.3	736,172	415,977	252,236	235,551
Atlantic & Danville	Sept.	205	147,064	.....	150,263	37,000	13,658	9,796	55,385	128,665	85.6	21,598	713	2,443	11,088
	9 mos.	205	1,287,217	.....	1,315,270	267,000	89,454	92,398	477,526	1,033,299	78.6	281,971	81,877	58,082	56,033
Atlantic Coast Line	Sept.	5,453	9,324,566	1,375,927	11,479,907	1,623,455	2,781,949	326,688	4,345,962	9,602,077	83.6	1,877,830	1,600,000	312,879	225,328
	9 mos.	5,453	94,035,175	15,436,806	117,424,287	23,301,726	24,124,924	3,004,602	44,348,694	100,044,085	85.2	17,380,202	10,775,000	4,086,889	6,210,934
Charleston & Western Carolina	Sept.	343	467,381	5,549	495,659	142,784	92,726	16,616	154,073	419,137	84.6	76,522	40,000	36,883	42,385
	9 mos.	343	4,643,421	72,102	4,855,065	1,243,484	727,528	152,496	1,504,326	3,742,578	77.1	1,112,487	520,000	502,895	378,482
Baltimore & Ohio	Sept.	6,187	34,246,320	2,100,432	39,663,140	5,233,310	8,502,468	841,290	14,657,306	30,653,404	79.3	8,009,736	2,918,997	3,457,905	3,522,541
	9 mos.	6,187	295,171,903	19,313,277	334,387,619	44,287,190	75,577,372	7,509,518	134,103,670	274,699,890	82.2	59,687,729	23,960,784	25,880,271	26,347,177
Staten Island Rapid Transit	Sept.	29	248,468	50,690	304,176	39,192	29,668	1,380	157,609	253,810	83.4	50,366	34,954	—5,185	—30,418
	9 mos.	29	2,125,175	448,162	2,622,936	439,614	332,080	13,003	1,344,691	2,382,801	90.8	240,135	318,865	—223,552	—393,191
Bangor & Aroostook	Sept.	602	496,218	38,082	569,450	204,822	203,507	15,904	207,082	687,710	120.8	—118,260	—56,270	—13,997	—10,178
	9 mos.	602	7,359,267	332,074	8,028,607	1,716,177	1,601,244	131,012	2,239,969	6,234,933	77.7	1,793,674	1,001,027	874,382	1,717,537
Bessemer & Lake Erie	Sept.	212	2,838,237	1,424	2,882,503	165,661	1,574,148	22,818	560,229	2,420,673	84.0	461,830	520,295	124,039	569,179
	9 mos.	212	22,018,298	9,125	22,271,426	1,809,749	7,085,979	168,259	4,735,949	14,595,508	65.5	7,675,918	5,765,640	3,798,876	3,835,516
Boston & Maine	Sept.	1,702	5,211,648	897,568	6,749,849	1,163,627	1,030,353	104,386	2,993,142	5,592,456	82.9	1,157,393	502,327	321,229	778,277
	9 mos.	1,702	50,604,213	8,610,005	65,170,955	11,534,557	10,642,384	1,004,515	28,218,472	54,268,939	83.3	10,902,016	5,341,193	2,410,973	4,348,837
Carolina & Indiana	Sept.	35	122,565	.....	122,603	17,695	86,487	97	23,315	134,230	109.5	—11,627	49,453	41,944	58,060
	9 mos.	35	1,187,184	.....	1,187,580	115,769	747,749	1,049	227,318	1,163,583	98.0	23,997	565,103	494,304	456,637
Canadian Pacific Lines in Maine	Sept.	234	251,828	55,309	335,940	116,274	78,525	7,614	152,005	366,089	109.0	—30,149	26,066	—96,297	—86,221
	9 mos.	234	4,167,032	397,252	4,805,381	954,190	767,379	64,815	1,814,380	3,708,685	77.2	1,096,696	248,363	356,187	—145,268
Canadian Pacific Lines in Vermont	Sept.	90	194,028	24,034	235,858	58,758	29,583	6,341	112,320	214,083	90.8	21,775	12,482	—48,281	—48,888
	9 mos.	90	1,746,563	122,319	2,028,773	482,432	286,054	53,731	1,064,137	1,953,732	96.3	75,041	113,316	—532,572	—768,862
Central of Georgia	Sept.	1,815	2,639,788	232,419	3,111,723	439,308	478,460	126,259	1,413,850	2,633,229	84.6	478,494	214,226	223,405	187,080
	9 mos.	1,815	26,952,054	2,435,698	31,751,199	5,618,018	5,300,659	1,100,848	14,091,025	27,838,445	87.7	3,912,754	2,219,486	1,120,306	899,212
Central of New Jersey	Sept.	412	2,855,688	481,648	3,562,913	534,030	576,952	57,815	1,757,663	3,071,218	86.2	491,695	400,801	—258,582	116,434
	9 mos.	410	25,788,869	4,354,667	32,363,399	4,429,640	5,555,601	505,846	16,731,436	28,694,611	88.7	3,668,788	3,597,174	—3,115,271	—2,331,713
Central of Pennsylvania	Sept.	210	1,578,124	4,505	1,620,228	156,553	357,996	24,193	480,954	1,056,796	65.2	563,432	190,925	642,207	753,845
	9 mos.	210	13,930,745	58,741	14,344,604	1,518,769	3,412,123	226,225	4,567,527	10,090,523	70.3	4,254,081	834,361	5,984,836	7,166,769
Central of Vermont	Sept.	422	788,000	54,000	919,000	195,620	131,815	10,255	390,439	770,950	83.9	148,050	42,462	33,465	14,176
	9 mos.	422	7,516,000	527,000	8,629,000	1,646,161	1,422,463	138,902	3,577,753	7,147,188	82.8	1,481,812	406,174	557,034	442,117
Chesapeake & Ohio	Sept.	5,117	31,208,299	664,675	33,447,900	3,893,410	6,214,706	531,426	10,027,918	21,821,986	65.2	11,625,914	7,001,774	4,966,196	5,086,015
	9 mos.	5,116	250,610,514	6,905,987	269,606,713	35,799,994	54,219,680	5,032,164	89,789,150	195,406,221	72.5	74,200,492	42,955,303	34,221,945	35,432,327
Chicago & Eastern Illinois	Sept.	886	2,168,934	269,741	2,695,076	402,801	433,060	115,736	1,034,139	2,142,395	79.5	552,681	184,000	245,495	540,184
	9 mos.	886	19,894,866	2,589,222	24,682,208	3,479,762	3,856,958	996,810	9,381,815	19,081,933	77.3	5,600,275	2,246,700	2,346,903	2,637,457
Chicago & Illinois Midland	Sept.	130	695,585	175	724,189	105,835	85,963	25,618	225,043	484,409	66.9	239,780	133,577	—193,949	258,479
	9 mos.	130	6,721,029	1,855	6,884,165	955,840	1,420,620	243,116	1,952,188	4,925,248	71.5	1,958,917	1,005,085	640,114	1,812,056
Chicago & North Western	Sept.	7,892	14,359,118	1,781,401	17,825,150	2,982,111	2,859,280	354,788	7,816,553	14,854,295	83.3	2,970,855	1,057,669	1,343,602	2,167,645
	9 mos.	7,910	118,280,227	16,765,795	149,983,333	24,313,033	28,653,960	3,097,209	70,774,979	134,269,085	89.5	15,714,248	9,603,958	2,408,524	4,312,763
Chicago, Burlington & Quincy	Sept.	8,825	18,027,201	1,719,091	21,686,958	4,227,207	3,274,307	424,865	7,830,700	16,523,355	76.2	5,163,603	3,044,348	1,886,856	4,412,909
	9 mos.	8,823	162,781,086	14,277,200	194,612,460	30,916,481	29,316,912	4,035,200	69,748,755	140,899,427	72.4	53,713,033	28,534,132	20,614,384	21,511,956
Chicago Great Western	Sept.	1,474	2,579,980	12,613	2,750,027	535,348	474,813	98,827	890,172	2,070,001	75.3	680,026	148,313	235,017	439,007
	9 mos.	1,474	23,622,357	257,583	25,256,115	4,430,327	3,827,222	902,837	8,495,983	18,391,165	72.8	6,864,950	2,061,778	2,153,990	2,675,559
Chicago, Indianapolis & Louisville	Sept.	541	1,534,382	77,409	1,722,203	316,986	275,072	81,503	649,339	1,414,865	82.2	307,338	105,563	91,662	290,311
	9 mos.	541	13,988,984	712,130	15,655,540	2,752,434	2,527,846	773,492	5,676,107	12,602,266	80.5	3,053,274	1,112,721	1,005,205	1,404,971
Chicago, Milwaukee, St. Paul & Pacific	Sept.	10,671	19,618,650	1,653,657	23,539,299	3,157,918	4,138,615	441,067	9,381,849	18,124,257	77.0	5,415,042	2,826,000	1,922,080	3,156,945
	9 mos.	10,671	160,078,983	14,760,202	194,130,424	29,058,962	39,226,990	4,153,627	84,643,689	166,392,064	85.7	27,738,360	15,330,000	7,392,768	11,932,252
Chicago, Rock Island & Pacific	Sept.	7,917	12,101,778	1,600,808	15,044,011	2,775,260	2,415,614	448,990	6,060,577	12,508,223	83.1	2,535,788	958,679	791,444	2,284,833
	9 mos.	7,923	118,334,416	15,236,918	145,660,612	22,173,829	23,046,954	4,196,805	57,814,313	114,484,356	78.6	31,176,256	13,196,583	10,220,531	12,895,093
Chicago, St. Paul, Minn. & Omaha	Sept.	1,617	2,762,899	196,456	3,166,349	457,471	384,332	61,926	1,498,352	2,523,549	79.7	642,800	187,039	178,498	565,971
	9 mos.	1,617	21,054,447	1,763,187	24,726,920	4,040,818	3,831,060	566,233	13,338,380	22,935,310	92.8	1,791,610	1,658,146	—1,520,588	644,233
Clinchfield	Sept.	317	1,867,819	1,009	1,877,692	217,901	282,821	38,317	433,115	1,004,119	53.5	873,573	225,673	842,444	868,298
	9 mos.	317	17,397,282	12,312	17,501,181	2,370,513	2,838,047	349,755	3,939,948	9,791,536	55.9	7,709,645	1,783,965	7,285,478	5,955,287

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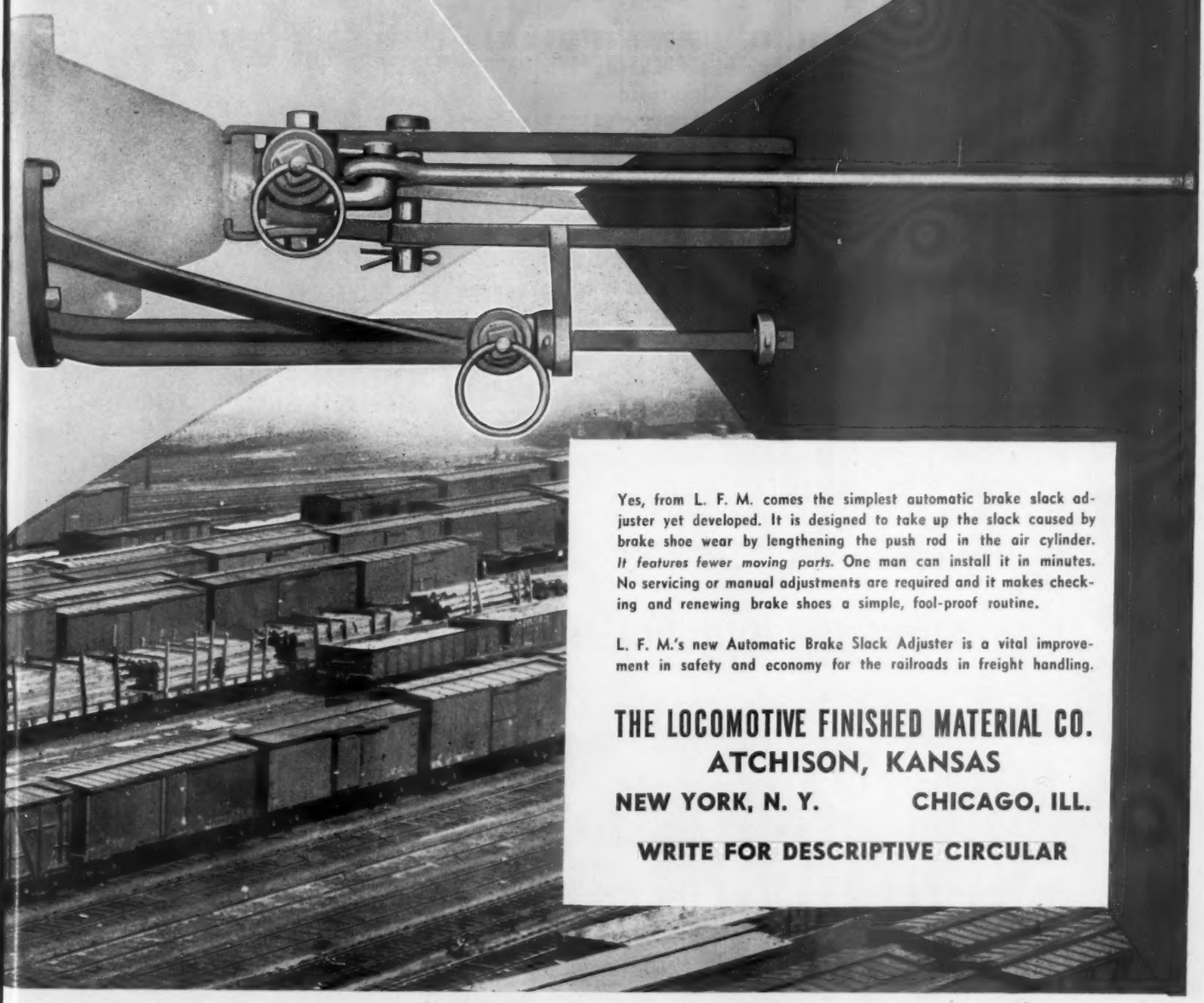
NEWEST AND SIMPLEST YET

LFM ESTABLISHED 1872

Automatic Brake

SLACK ADJUSTER

PAT. APPLIED FOR



Yes, from L. F. M. comes the simplest automatic brake slack adjuster yet developed. It is designed to take up the slack caused by brake shoe wear by lengthening the push rod in the air cylinder. *It features fewer moving parts.* One man can install it in minutes. No servicing or manual adjustments are required and it makes checking and renewing brake shoes a simple, fool-proof routine.

L. F. M.'s new Automatic Brake Slack Adjuster is a vital improvement in safety and economy for the railroads in freight handling.

THE LOCOMOTIVE FINISHED MATERIAL CO.
ATCHISON, KANSAS
NEW YORK, N. Y. CHICAGO, ILL.

WRITE FOR DESCRIPTIVE CIRCULAR

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Colorado & Southern	Sept.	736	1,230,547	102,132	1,427,740	181,009	172,394	28,062	564,481	996,649	69.8	431,091	475,454	—103,717	236,306
	9 mos.	739	10,047,339	821,920	11,726,197	1,521,844	1,785,460	240,049	4,466,817	8,510,301	72.6	3,215,896	2,170,490	740,903	928,929
Ft. Worth & Denver City	Sept.	804	1,299,543	169,140	1,601,139	216,050	184,894	51,070	661,585	1,205,689	75.3	395,450	141,869	87,766	186,824
	9 mos.	804	12,240,543	1,470,421	14,931,370	2,116,305	2,129,513	479,153	5,833,921	11,410,383	76.4	3,520,987	1,206,934	1,256,032	1,923,168
Colorado & Wyoming	Sept.	41	165,892	.....	289,539	30,424	30,151	985	111,195	184,393	63.6	105,146	92,861	8,334	15,865
	9 mos.	41	1,375,378	.....	2,480,577	484,171	249,116	10,551	1,065,625	1,908,431	76.9	572,146	341,105	212,872	232,132
Columbus & Greenville	Sept.	168	136,471	118	147,006	39,968	28,175	4,016	49,148	137,472	93.5	9,534	9,689	2,792	3,864
	9 mos.	168	1,424,834	29	1,486,444	396,351	274,007	33,373	464,934	1,325,634	89.2	160,810	160,198	40,107	—9,673
Delaware & Hudson	Sept.	793	4,246,993	194,845	4,584,027	680,367	1,078,301	78,991	1,803,369	3,827,700	83.5	756,327	522,950	251,224	599,027
	9 mos.	793	41,081,064	1,445,025	43,776,461	6,034,113	9,389,458	708,170	16,685,557	34,581,757	79.0	9,194,704	5,405,584	4,110,490	3,891,672
Delaware, Lackawanna & Western	Sept.	965	5,760,733	772,737	7,134,992	804,663	1,377,987	172,188	3,192,338	5,791,552	81.2	1,343,440	681,965	671,255	832,985
	9 mos.	965	53,117,518	7,216,508	65,730,649	7,437,276	12,687,379	1,516,609	30,118,945	54,082,724	82.3	11,647,925	6,831,769	4,800,981	5,705,041
Denver & Rio Grande Western	Sept.	2,334	6,681,485	317,659	7,225,006	850,195	1,087,665	155,742	2,184,531	4,550,028	63.0	2,674,978	1,445,793	1,225,674	1,241,320
	9 mos.	2,340	50,858,107	2,770,619	55,653,742	7,535,294	9,679,167	1,465,031	17,992,961	39,150,056	70.4	16,503,686	8,670,074	7,824,359	5,785,319
Detroit & Mackinac	Sept.	232	211,499	Dr. 156	215,553	75,000	19,864	4,166	38,650	146,837	42.5	68,716	46,559	14,141	52,576
	9 mos.	232	1,819,702	772	1,888,342	435,000	186,932	31,048	339,588	1,076,816	57.0	811,526	465,187	289,220	408,526
Detroit & Toledo Shore Line	Sept.	50	601,781	.....	605,096	72,537	57,552	13,655	193,606	348,275	57.6	256,821	108,484	61,362	84,308
	9 mos.	50	5,637,575	.....	5,668,631	650,390	528,734	124,549	1,861,584	3,277,495	57.8	2,391,136	950,474	615,884	862,547
Detroit, Toledo & Ironton	Sept.	464	1,334,494	472	1,407,189	201,513	237,030	27,033	391,599	896,508	63.7	510,681	285,927	202,163	253,826
	9 mos.	464	13,461,491	3,955	14,084,573	1,892,160	2,248,497	246,696	3,852,642	8,657,415	61.5	5,427,158	2,812,977	2,298,796	2,683,023
Duluth, Missabe & Iron Range	Sept.	567	6,541,592	1,512	7,623,252	544,944	748,151	8,505	2,084,938	3,525,580	46.2	4,097,672	2,741,229	1,254,245	1,672,430
	9 mos.	565	38,619,411	15,220	44,547,597	5,542,876	6,365,002	77,704	14,337,810	27,267,532	61.2	17,280,065	11,809,799	5,414,434	6,717,647
Duluth, South Shore & Atlantic	Sept.	539	579,797	7,842	617,537	122,637	163,733	20,249	257,749	582,154	94.3	35,383	29,626	—30,316	189,466
	9 mos.	539	5,749,271	69,407	6,096,628	1,141,253	1,125,727	192,949	2,425,335	5,047,338	82.8	1,049,290	253,653	438,328	600,249
Duluth, Winnipeg & Pacific	Sept.	175	381,000	1,500	388,200	83,798	81,917	3,684	168,775	344,711	88.8	43,489	31,259	—37,484	43,356
	9 mos.	175	3,754,000	10,100	3,816,400	668,783	630,937	40,558	1,631,483	3,031,972	79.4	784,428	295,264	59,601	122,949
Elgin, Joliet & Eastern	Sept.	238	3,700,223	16	4,562,725	380,351	582,952	28,653	1,638,220	2,782,387	61.0	1,780,338	941,853	405,814	816,635
	9 mos.	238	32,606,131	61	40,821,696	3,840,023	5,794,048	278,077	14,579,248	25,849,885	63.3	14,971,811	7,067,603	3,295,247	6,845,813
Erie	Sept.	2,243	12,874,898	588,821	14,587,919	2,128,098	2,283,778	329,123	5,838,332	11,253,450	77.1	3,334,469	1,266,831	1,560,345	1,761,907
	9 mos.	2,244	117,176,316	5,450,758	132,179,277	17,868,091	21,412,187	3,069,316	54,694,899	103,095,094	78.0	29,084,183	13,065,858	11,876,581	13,310,975
Florida East Coast	Sept.	571	1,089,861	333,223	1,581,189	291,762	399,967	66,694	766,028	1,668,615	105.5	—87,426	149,093	—319,024	—285,214
	9 mos.	571	15,280,120	5,125,764	22,366,440	3,064,457	3,968,980	617,922	8,747,928	17,954,918	80.3	4,411,522	1,405,316	1,700,827	1,341,283
Georgia Railroad	Sept.	323	679,212	47,235	774,826	99,978	124,979	30,663	320,118	611,245	78.9	163,581	36,774	136,151	245,831
	9 mos.	323	6,190,288	545,999	7,179,381	1,057,505	1,104,313	279,045	2,863,769	5,626,664	78.4	1,552,717	344,979	1,297,734	1,150,468
Georgia & Florida	Sept.	359	228,786	33	236,522	73,568	32,737	18,660	84,086	223,891	94.7	12,631	16,659	—19,782	—2,213
	9 mos.	359	2,576,937	179	2,630,714	723,723	298,344	171,958	803,248	2,118,827	80.5	511,887	151,284	164,329	—77,211
Grand Trunk Western	Sept.	952	4,127,000	205,000	4,647,000	775,473	780,285	57,560	2,025,833	3,796,089	81.7	850,911	278,923	252,904	845,974
	9 mos.	962	37,713,000	1,798,000	42,779,000	6,687,194	7,887,783	639,595	18,750,639	35,449,503	82.9	7,329,497	2,596,698	2,716,924	5,618,192
Canadian Natl. Lines in New Engl.	Sept.	172	207,000	6,000	244,000	76,567	43,750	2,720	132,344	272,514	111.7	—28,514	22,746	—100,292	—83,706
	9 mos.	172	1,696,000	80,100	2,114,000	539,234	436,184	24,366	1,205,315	2,364,707	111.9	—250,707	204,714	—841,327	—954,521
Great Northern	Sept.	8,316	20,980,754	1,201,336	24,131,323	3,454,816	3,392,138	349,723	7,494,613	15,472,695	64.1	8,658,628	4,383,733	3,707,904	6,510,688
	9 mos.	8,316	158,804,286	10,267,533	182,560,056	32,915,644	30,842,052	3,347,827	64,417,412	138,525,139	75.9	44,034,917	26,450,964	15,213,521	11,821,713
Green Bay & Western	Sept.	224	300,536	.....	306,994	114,437	51,364	20,823	81,288	284,104	92.5	22,890	16,309	882	39,186
	9 mos.	224	2,990,036	.....	3,044,154	867,381	381,582	186,748	766,663	2,338,408	76.8	705,746	344,392	302,386	406,331
Gulf, Mobile & Ohio	Sept.	2,898	6,000,917	419,606	6,947,938	1,049,270	1,494,939	254,784	2,087,622	5,191,463	74.7	1,756,475	818,002	637,486	259,756
	9 mos.	2,898	55,835,818	3,905,518	64,078,847	10,623,883	12,725,729	2,276,721	19,563,929	48,175,231	75.2	15,903,616	7,239,272	5,709,735	5,255,778
Illinois Terminal	Sept.	462	912,467	73,426	1,123,914	153,819	166,111	37,317	427,798	832,154	74.04	291,760	146,902	100,797	128,680
	9 mos.	462	7,506,447	724,674	9,323,673	1,345,121	1,388,972	338,954	3,809,745	7,325,585	78.57	1,998,088	999,128	743,985	894,313
Illinois Central	Sept.	6,539	19,704,484	1,957,997	23,658,367	3,881,975	4,199,073	497,042	8,629,113	18,179,565	76.8	5,478,802	3,257,082	1,979,765	2,814,776
	9 mos.	6,539	177,798,975	17,151,027	214,187,846	35,536,090	38,139,237	4,499,695	80,283,418	167,667,307	78.3	46,520,539	22,416,026	20,003,347	20,256,308
Kansas City Southern	Sept.	891	3,059,962	124,439	3,510,750	333,588	379,273	79,695	1,110,501	2,004,539	57.1	1,506,211	621,000	649,462	839,668
	9 mos.	891	29,004,474	1,270,987	32,838,870	3,366,314	4,030,394	724,356	9,877,438	19,011,374	57.9	13,827,496	6,374,000	5,600,247	6,086,304
Kansas, Oklahoma & Gulf	Sept.	327	506,146	608	512,145	91,516	32,253	24,380	127,782	297,471	58.1	214,674	93,216	80,810	87,203
	9 mos.	327	4,866,568	5,511	4,914,890	620,548	311,914	181,314	1,126,331	2,433,808	49.5	2,481,082	1,158,676	1,012,438	764,026
Lake Superior & Ishpeming	Sept.	156	464,522	54	573,392	47,269	50,223	2,036	128,338	239,112	41.7	334,280	198,800	150,880	149,656
	9 mos.	156	2,918,346	305	3,518,747	461,063	443,030	17,778	947,123	1,987,309	56.5	1,531,438	1,000,034	646,601	513,074
Lehigh & Hudson River	Sept.	96	260,707	.....	261,433	41,646	25,930	11,115	79,770	168,213	64.3	93,220	15,598	57,860	36,760
	9 mos.	96	2,423,095	.....	2,447,636	373,711	228,359	98,152	733,385	1,523,010	62.2	924,626	431,079	350,899	213,053
Lehigh & New England	Sept.	184	827,689	.....	834,704	74,318	101,497	11,092	197,357	415,721	49.8	418,983	221,410	215,041	190,889
	9 mos.	189	6,502,039	.....	6,565,608	897,855	1,019,946	104,113	1,699,325	4,024,431	61.3	2,541,177	1,432,254	1,398,583	1,589,985
Lehigh Valley	Sept.	1,223	5,839,882	346,808	6,461,858	886,682	1,244,819	136,908	2,491,841	5,000,005	77.4	1,461,853	548,785	758,416	803,268
	9 mos.	1,226	52,552,228	2,883,497	57,874,285	7,767,222	12,227,605	1,240,729	23,115,634	46,529,760	80.4	11,344,525	5,189,770	5,367,039	5,653,732
Long Island	Sept.	365	1,386,944	3,080,519	4,715,460	570,899	743,999	22,840	2,370,226	3,888,644	82.5	826,816	479,177	69,552	222,545
	9 mos.	365	11,263,257	26,628,408	40,209,117	5,474,296	7,581,261	126,637	21,313,572	35,931,690	89.4	4,277,427	4,048,977	—2,246,046	—527,516

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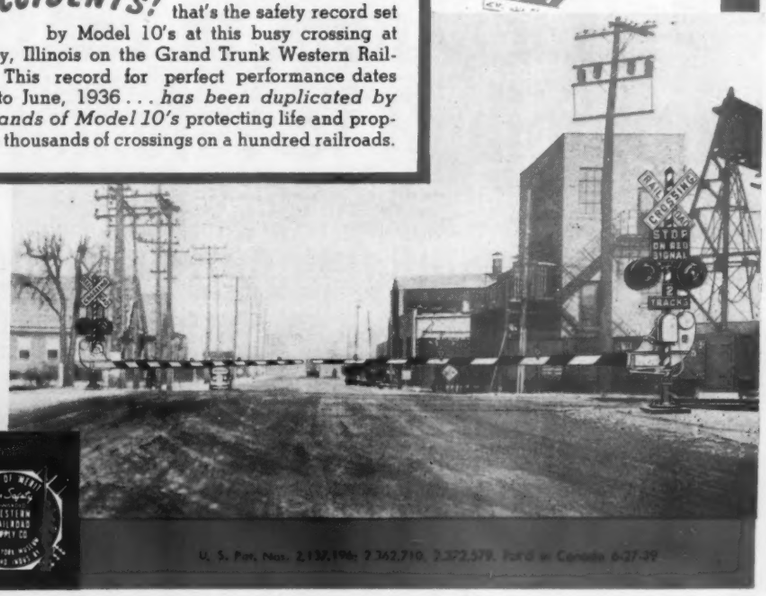
IT'S NO ACCIDENT that

...MODEL 10 SIGNALS are PREFERRED PROTECTION ON 100 RAILROADS

IT'S NO ACCIDENT... that Model 10 Automatic Signals occupy the Number One position for lifesaving protection at railroad-highway crossings. This post of honor has been *earned* by outstanding performance. NO ACCIDENT *has ever occurred as a result of operation failure on the part of Model 10's.*

IT'S NO ACCIDENT... that Model 10's are regarded by traffic experts as today's best buy in grade crossing protection. *Engineered with half a century of experience in this specialized field,* Model 10's are built to exacting standards by modern precision methods and equipment. They offer, in addition to mechanical excellence, the sound economies of low installation cost, minimum operating cost, and virtually no maintenance or replacement of parts.

NO ACCIDENTS! that's the safety record set by Model 10's at this busy crossing at Harvey, Illinois on the Grand Trunk Western Railroad. This record for perfect performance dates back to June, 1936 . . . *has been duplicated by thousands of Model 10's* protecting life and property at thousands of crossings on a hundred railroads.



It's Free

Model 10

AUTOMATIC GRADE CROSSING SIGNALS
PRODUCT OF
WESTERN RAILROAD SUPPLY COMPANY
CHICAGO 8, ILLINOIS

LEADING MANUFACTURER OF GRADE CROSSING SAFETY DEVICES—MAKER OF RAILWAY SIGNALING ACCESSORIES

U. S. Pat. Nos. 2,137,196- 2,342,710. 2,372,579. Pats. in Canada 6-27-39

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1951

		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1951	Net railway operating income 1950
Louisiana & Arkansas	Sept.	756	1,833,700	60,501	1,971,055	391,098	230,069	65,174	564,764	1,320,687	67.0	650,368	177,361	325,602	370,893
	9 mos.	756	16,541,102	552,203	17,753,377	3,444,119	2,121,247	594,101	5,122,377	11,927,421	67.2	5,825,956	2,699,818	2,011,396	2,912,279
Louisville & Nashville	Sept.	4,765	15,338,787	1,170,857	17,499,226	2,480,117	3,763,456	324,512	6,529,207	13,701,767	78.3	3,797,459	2,618,913	1,915,075	2,794,924
	9 mos.	4,774	143,720,742	11,135,820	164,205,668	23,692,283	35,333,045	2,908,389	62,503,380	130,262,632	79.3	33,943,036	24,099,804	15,029,105	16,597,929
Maine Central	Sept.	981	1,720,248	132,179	1,987,098	417,907	351,243	20,772	720,948	1,586,483	79.8	400,615	237,549	162,681	180,966
	9 mos.	981	17,078,357	1,213,419	19,498,376	3,717,420	3,376,416	178,299	6,739,969	14,677,893	75.3	4,820,483	2,553,211	1,949,963	1,615,549
Midland Valley	Sept.	334	144,889	3	148,912	48,908	17,433	4,284	57,334	134,377	90.2	14,535	9,268	—3,496	44,163
	9 mos.	334	1,500,462	63	1,526,450	434,117	155,686	37,921	532,974	1,224,358	80.2	302,092	171,627	36,580	129,212
Minneapolis & St. Louis	Sept.	1,406	1,943,475	4,452	2,012,322	366,560	245,079	122,787	589,150	1,423,274	70.7	589,048	302,663	213,099	412,058
	9 mos.	1,406	15,229,449	107,349	15,874,395	3,025,412	2,379,955	1,039,856	5,204,840	12,640,023	79.6	3,234,372	1,742,898	935,126	1,553,129
Minn., St. Paul & Sault Ste. Marie	Sept.	3,224	4,019,654	106,632	4,327,799	738,701	527,351	69,387	1,434,914	2,888,148	66.7	1,439,651	509,651	774,201	715,725
	9 mos.	3,224	27,864,936	805,062	30,189,342	6,290,916	5,807,769	657,770	12,164,031	26,020,019	86.2	4,169,323	2,087,065	1,769,840	836,520
Mississippi Central	Sept.	148	185,767	132	189,558	45,990	25,734	13,294	55,686	149,731	79.0	39,827	33,155	—2,455	33,019
	9 mos.	148	1,894,187	58	1,932,144	382,248	249,436	116,686	514,046	1,345,895	69.7	586,249	285,780	203,978	179,055
Missouri-Illinois	Sept.	172	453,227	174	456,868	68,176	62,350	7,685	122,264	269,789	59.1	187,079	113,348	73,983	81,873
	9 mos.	172	3,865,453	1,793	3,925,273	600,562	584,982	72,412	1,044,089	2,377,032	60.6	1,548,241	988,508	626,481	580,608
Missouri-Kansas-Texas Lines	Sept.	3,242	5,552,727	377,951	6,434,593	939,774	880,119	239,335	2,416,959	4,769,257	74.1	1,665,336	760,627	544,057	887,467
	9 mos.	3,242	48,295,219	3,802,383	56,851,010	8,795,000	8,425,367	2,191,724	22,217,542	44,485,344	78.2	12,365,666	5,504,922	4,343,388	5,993,787
Missouri Pacific	Sept.	6,950	16,230,608	1,001,213	19,102,328	3,696,895	3,835,926	443,231	7,217,974	15,795,368	82.7	3,306,960	1,132,299	1,811,267	2,912,136
	9 mos.	6,958	148,761,403	9,313,645	173,446,436	30,997,641	34,155,377	3,968,036	67,147,134	141,939,275	81.8	31,507,161	11,597,709	15,545,355	19,270,204
International-Great Northern	Sept.	1,104	2,596,181	194,623	3,061,770	556,860	532,151	53,095	1,278,048	2,550,291	83.3	511,479	63,684	268,881	214,266
	9 mos.	1,104	24,007,806	2,044,648	28,391,587	5,839,230	4,864,077	493,287	11,276,920	23,679,216	83.4	4,712,371	1,190,514	2,151,182	2,177,809
Gulf Coast Lines	Sept.	1,727	3,127,586	97,951	3,441,941	686,273	491,560	85,128	1,191,221	2,586,395	75.08	858,546	297,259	331,970	319,661
	9 mos.	1,727	29,809,441	990,692	32,541,298	6,596,809	4,974,902	758,354	10,904,738	24,546,680	75.43	7,994,618	2,812,634	3,253,857	3,917,413
Monongahela	Sept.	178	669,353	.....	671,264	93,308	92,692	1,220	261,148	455,219	67.8	216,045	22,899	48,882	143,903
	9 mos.	178	6,617,170	32	6,651,018	810,753	791,788	10,777	2,295,808	3,976,765	59.8	2,674,253	599,296	759,198	273,782
Montour	Sept.	51	255,798	.....	256,486	25,185	92,663	922	93,149	221,356	86.3	35,130	60,112	42,993	68,906
	9 mos.	51	1,940,554	.....	1,945,671	270,985	788,280	8,095	795,741	1,938,350	99.6	7,321	333,241	244,625	416,827
Nashville, Chatt. & St. Louis	Sept.	1,049	2,464,625	141,657	2,843,533	534,339	466,585	113,296	1,079,513	2,301,840	81.0	541,693	314,316	250,230	439,196
	9 mos.	1,049	24,059,066	1,586,049	27,914,288	5,085,664	4,210,769	1,004,940	10,076,659	21,438,405	76.8	6,475,883	4,138,827	2,534,241	3,138,866
New York Central	Sept.	10,725	46,168,773	10,018,470	63,659,151	9,780,177	13,446,837	1,030,837	29,950,656	57,354,522	90.1	6,304,629	4,832,418	1,973,836	6,198,219
	9 mos.	10,727	437,171,070	89,394,534	591,315,664	79,993,695	122,553,033	9,412,503	276,576,716	516,423,118	87.3	74,892,546	44,608,545	16,755,110	24,956,174
Pittsburgh & Lake Erie	Sept.	221	3,609,354	75,910	3,877,379	481,864	1,400,261	67,556	1,452,970	3,602,844	92.9	274,535	784,497	265,702	603,312
	9 mos.	221	34,491,236	726,576	36,926,564	4,558,685	11,627,740	652,272	13,022,128	31,736,997	85.9	5,189,567	6,218,842	5,476,827	5,847,481
New York, Chicago & St. Louis	Sept.	2,192	12,683,165	156,764	13,354,714	1,527,470	2,240,867	294,412	4,630,564	9,131,567	68.4	4,223,147	2,065,236	1,824,597	2,228,033
	9 mos.	2,192	112,918,531	1,550,692	118,502,522	13,677,308	20,033,607	2,742,438	41,988,779	82,406,713	69.5	36,095,809	16,785,590	15,957,101	17,793,476
New York, New Haven & Hartford	Sept.	1,794	7,285,116	4,167,809	12,698,513	1,960,962	2,064,592	197,385	5,397,111	10,231,680	80.6	2,466,833	1,345,333	300,253	909,016
	9 mos.	1,794	68,866,475	35,956,915	116,161,890	17,945,771	19,117,673	1,691,734	50,562,636	95,071,156	81.8	21,090,734	8,557,333	4,498,247	7,422,727
New York Connecting	Sept.	21	200,470	.....	210,126	92,156	15,558	.....	61,396	171,422	81.6	38,704	83,080	832	42,762
	9 mos.	21	2,325,524	.....	2,429,569	881,314	148,951	.....	593,720	1,649,222	67.9	780,347	664,252	398,564	463,035
New York Ontario & Western	Sept.	542	534,779	6,315	559,166	120,104	84,160	25,752	277,029	537,736	96.2	21,430	36,991	—85,157	—39,621
	9 mos.	542	5,166,285	71,999	5,449,168	1,055,253	785,971	236,967	2,582,122	4,935,899	90.6	513,269	337,373	—429,047	—515,610
New York, Susquehanna & Western	Sept.	120	334,473	35,965	390,790	59,357	52,982	8,602	180,683	324,737	83.1	66,053	7,955	25,711	59,182
	9 mos.	120	3,545,999	335,632	4,052,030	497,893	480,054	72,258	1,733,154	3,003,335	74.1	1,048,695	294,854	418,102	393,443
Norfolk & Western	Sept.	2,135	17,266,362	477,546	18,582,296	1,909,665	3,052,851	284,113	5,150,366	10,998,140	59.2	7,584,156	5,442,841	3,010,525	3,151,074
	9 mos.	2,135	139,555,399	4,448,573	150,510,701	20,109,275	29,994,684	2,550,726	44,842,700	102,857,906	68.3	47,652,795	34,254,017	21,782,790	19,817,236
Norfolk Southern	Sept.	643	880,135	.....	902,778	184,404	123,588	46,113	304,421	735,140	81.4	167,638	81,901	34,233	85,946
	9 mos.	643	8,231,062	1,371	8,443,156	1,573,201	1,041,047	414,373	2,762,083	6,424,278	76.1	2,018,878	1,007,594	600,674	484,896
Northern Pacific	Sept.	6,886	13,914,367	548,602	15,544,148	2,442,800	2,601,350	280,432	5,601,253	11,556,162	74.3	3,987,986	2,375,036	1,573,773	3,820,969
	9 mos.	6,887	110,713,797	5,799,908	125,064,982	20,470,910	24,787,550	2,499,040	48,321,291	102,027,664	81.6	23,037,318	16,046,261	9,830,717	11,227,822
Northwestern Pacific	Sept.	331	981,629	5,292	1,015,257	229,891	34,398	5,524	401,983	689,119	67.9	326,138	81,727	37,090	126,283
	9 mos.	331	8,359,018	38,765	8,629,099	2,057,978	883,092	43,630	3,738,727	6,872,016	79.6	1,757,083	709,807	231,441	507,077
Oklahoma City-Ada-Atoka	Sept.	132	86,748	.....	87,452	23,865	7,146	1,644	20,419	56,829	65.0	30,623	7,779	9,258	—3,805
	9 mos.	132	860,546	Dr. 66	867,956	201,419	40,888	15,029	194,410	485,773	56.0	382,183	154,823	122,265	29,958
Pennsylvania	Sept.	10,127	67,516,381	13,213,522	88,970,385	11,400,245	21,279,672	1,342,510	37,650,738	74,853,897	84.1	14,116,488	7,057,648	4,931,328	7,119,735
	9 mos.	10,127	585,390,571	114,291,672	769,116,208	96,828,207	190,366,806	11,630,322	336,121,143	663,112,440	86.2	106,003,768	50,956,593	39,527,766	42,942,729

Table continued on next left-hand page.



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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Pennsylvania-Reading Seashore Lines	Sept.	365	673,692	256,901	980,098	180,545	96,840	12,804	618,588	943,628	96.3	36,470	101,368	—216,506	—139,308
	9 mos.	365	5,638,382	2,064,243	8,069,808	1,954,691	865,444	100,622	5,443,555	8,705,188	107.9	—635,380	908,469	—2,798,655	—3,340,974
Pittsburg & Shawmut	Sept.	97	201,286	.....	201,954	51,345	73,635	3,144	52,174	188,801	93.5	13,153	5,219	20,897	24,450
	9 mos.	97	1,783,743	.....	1,793,548	304,910	514,491	30,796	499,522	1,417,982	79.1	375,566	93,493	321,398	323,404
Pittsburgh & West Virginia	Sept.	132	718,674	.....	731,162	145,995	181,955	47,054	195,279	595,076	81.4	136,086	83,106	99,944	134,209
	9 mos.	132	6,416,751	.....	6,507,350	1,289,385	1,592,765	434,020	1,803,975	5,353,958	82.3	1,153,392	737,370	910,220	1,025,782
Reading	Sept.	1,313	9,389,080	553,450	10,482,926	1,609,086	2,305,931	136,079	3,981,013	8,349,061	79.6	2,133,865	1,360,193	1,055,062	1,284,832
	9 mos.	1,313	84,553,329	5,163,390	95,292,683	14,717,706	21,204,888	1,254,820	38,222,239	78,429,600	82.3	16,863,083	9,979,161	7,995,740	9,283,580
Richmond, Fredericksburg & Potomac	Sept.	118	1,317,234	503,160	2,021,394	302,745	243,736	20,338	654,974	1,347,545	66.7	673,849	425,372	161,078	328,570
	9 mos.	118	13,156,131	5,226,006	20,479,034	2,618,325	2,522,468	184,753	6,617,666	13,160,121	64.3	7,318,913	4,032,013	2,355,666	2,415,819
Rutland	Sept.	397	374,721	34,231	479,397	65,018	69,629	16,300	238,328	411,832	85.9	67,565	30,665	16,961	10,793
	9 mos.	403	3,510,739	249,999	4,413,633	735,894	726,509	139,081	2,274,072	4,074,435	92.3	339,198	293,839	—118,181	—116,885
Sacramento Northern	Sept.	271	341,660	.....	355,928	44,157	16,565	2,220	95,502	167,391	47.0	188,537	16,036	143,515	136,187
	9 mos.	271	2,451,659	205	2,512,469	483,521	245,639	19,450	847,449	1,669,792	66.5	842,677	129,052	515,725	381,787
St. Louis-San Francisco	Sept.	4,601	8,939,340	628,974	10,336,579	1,612,460	1,765,259	298,262	3,805,725	7,956,025	77.0	2,380,554	1,369,995	1,156,714	1,602,232
	9 mos.	4,612	78,793,600	5,677,562	90,953,510	15,338,871	15,595,265	2,518,003	34,769,474	72,405,682	79.6	18,547,828	10,575,711	8,271,644	9,526,251
St. Louis, San Francisco & Texas	Sept.	159	307,019	10,064	341,501	55,210	37,591	19,838	158,154	287,057	84.1	54,444	Cr. 6,496	14,959	75,159
	9 mos.	159	3,257,719	100,402	3,590,623	448,241	330,641	165,489	1,390,976	2,450,637	68.3	1,139,986	429,974	259,827	214,560
St. Louis Southwestern Lines	Sept.	1,569	4,813,921	41,402	5,092,975	677,110	661,494	153,398	1,731,613	3,400,385	66.8	1,692,590	866,257	569,665	1,441,560
	9 mos.	1,569	48,922,549	515,127	51,297,761	6,506,357	6,240,907	1,371,531	16,371,814	32,183,183	62.7	19,114,578	10,049,284	6,656,676	8,523,821
Seaboard Air Line	Sept.	4,146	8,905,186	997,373	10,717,684	1,653,777	2,070,919	345,318	3,618,462	8,166,141	76.2	2,551,543	1,322,248	1,239,978	1,427,723
	9 mos.	4,146	93,113,882	11,291,385	111,985,461	18,241,421	19,334,260	3,118,574	38,043,854	83,404,350	74.5	28,581,111	14,162,027	12,708,377	11,720,044
Southern	Sept.	6,333	17,485,031	1,755,875	20,576,673	2,278,545	4,137,044	396,206	7,291,541	14,933,372	72.6	5,643,301	3,666,308	1,602,546	2,759,964
	9 mos.	6,341	162,765,943	15,488,802	190,854,704	26,279,539	37,688,479	3,572,855	68,099,760	143,408,830	75.1	47,445,874	24,101,722	18,528,652	20,230,124
Alabama Great Southern	Sept.	327	1,406,586	93,152	1,642,199	1,042,894	382,562	32,663	485,713	2,002,118	121.9	—359,919	Cr. 100,522	—265,631	199,678
	9 mos.	319	12,496,303	871,880	14,473,643	2,937,147	3,596,038	290,783	5,059,272	12,436,683	85.9	2,036,960	1,662,512	620,774	1,335,059
Cinn., New Orleans & Texas Pacific	Sept.	336	2,929,106	201,269	3,289,119	295,226	1,199,835	69,231	921,804	2,611,892	79.4	677,227	730,903	80,241	921,317
	9 mos.	336	29,293,794	1,931,354	32,784,269	3,972,120	7,650,980	605,923	8,862,606	22,227,732	67.8	10,556,537	7,038,967	4,300,638	5,650,559
Georgia Southern & Florida	Sept.	397	495,131	51,812	600,816	110,883	64,160	6,778	205,775	401,877	66.9	198,939	80,556	31,556	87,286
	9 mos.	397	4,949,758	741,364	6,198,162	1,403,801	608,107	69,210	1,977,155	4,238,598	68.4	1,959,564	563,294	440,915	419,127
New Orleans & Northeastern	Sept.	203	912,421	58,038	1,030,246	52,931	120,790	19,385	232,862	469,657	45.6	560,589	388,227	151,744	236,450
	9 mos.	203	8,729,305	501,209	9,723,294	1,329,866	1,158,986	175,627	2,247,388	5,316,813	54.7	4,406,481	2,716,180	1,395,346	1,656,218
Southern Pacific	Sept.	8,130	36,261,700	3,427,418	42,176,639	4,759,136	11,098,258	771,282	16,625,658	35,147,110	83.3	7,029,529	4,916,795	3,709,654	9,171,714
	9 mos.	8,128	324,771,062	32,305,511	378,615,269	43,146,615	80,764,094	6,853,293	147,418,362	295,706,965	78.1	82,908,304	45,776,545	28,282,662	33,210,020
Texas & New Orleans	Sept.	4,292	9,513,882	748,857	10,990,627	1,626,497	492,780	250,719	4,374,396	7,256,425	66.0	3,734,202	695,278	173,350	2,130,613
	9 mos.	4,300	87,630,392	7,438,502	101,514,395	16,264,080	15,543,780	2,212,090	39,744,101	78,609,939	77.4	22,904,456	9,590,677	6,042,854	8,890,642
Spokane International	Sept.	152	232,261	854	247,104	54,101	26,956	4,982	61,566	157,679	63.8	89,425	40,231	32,768	48,432
	9 mos.	152	1,859,652	8,473	1,971,752	493,595	211,804	43,317	524,166	1,357,351	68.8	614,401	232,173	247,811	322,781
Spokane, Portland & Seattle	Sept.	931	2,647,621	93,673	2,856,990	397,737	334,399	23,570	780,003	1,618,708	56.7	1,238,282	499,569	575,014	915,108
	9 mos.	931	21,191,846	797,090	23,102,948	3,588,099	2,771,703	218,699	6,832,544	14,196,357	61.4	8,906,591	3,335,696	4,486,628	3,614,891
Tennessee Central	Sept.	286	383,415	3,204	408,218	90,927	65,236	11,854	139,597	326,667	80.0	81,551	24,080	21,900	55,420
	9 mos.	286	3,433,642	157,463	3,793,944	810,155	615,248	100,310	1,300,521	3,001,595	79.1	792,349	224,881	271,326	383,525
Texas & Northern	Sept.	8	117,544	.....	127,743	4,850	13,042	866	31,163	54,554	42.7	73,189	48,687	12,225	36,044
	9 mos.	8	957,389	.....	1,067,557	126,394	103,849	8,576	269,382	547,404	51.3	520,153	259,349	144,361	291,663
Texas & Pacific	Sept.	1,846	5,315,104	366,219	6,117,672	822,488	1,038,133	179,508	2,027,074	4,375,876	71.5	1,741,796	604,326	884,150	321,623
	9 mos.	1,846	49,046,968	3,852,684	57,031,250	7,815,431	8,823,104	1,545,021	19,101,220	40,151,313	70.4	16,879,937	7,022,941	6,806,172	5,705,727
Texas-Mexican	Sept.	162	232,648	.....	255,721	73,060	28,571	8,296	69,485	197,544	77.2	58,177	41,476	—3,698	—8,667
	9 mos.	162	2,209,745	.....	2,493,434	612,843	310,556	66,436	578,250	1,733,703	69.5	759,731	309,579	256,718	419,061
Toledo, Peoria & Western	Sept.	239	567,522	12	574,438	100,968	37,212	40,398	137,023	347,385	60.5	227,053	74,847	97,946	107,294
	9 mos.	239	4,997,047	201	5,062,202	898,691	356,991	385,936	1,219,053	3,162,800	62.5	1,899,402	855,826	623,529	708,957
Union Pacific	Sept.	9,756	36,706,315	3,508,501	43,317,015	4,673,534	8,080,125	837,167	15,289,126	31,027,552	71.6	12,289,463	6,325,572	4,901,207	6,299,150
	9 mos.	9,725	312,244,552	29,090,465	366,791,441	50,987,381	72,420,272	7,919,492	132,455,604	282,930,790	77.1	83,860,651	53,340,426	17,970,867	26,401,939
Utah	Sept.	110	138,673	.....	139,082	16,388	46,724	695	59,338	130,289	93.7	8,793	10,158	11,989	31,501
	9 mos.	110	863,138	.....	865,405	153,986	416,498	6,958	414,783	1,056,784	122.1	—191,379	93,856	—172,484	—103,235
Virginian	Sept.	643	4,074,055	4,193	4,251,210	526,329	922,570	43,535	902,016	2,489,506	58.6	1,761,704	925,000	1,010,460	903,077
	9 mos.	643	32,870,378	25,219	34,104,663	4,043,583	7,472,210	379,634	7,442,229	20,133,499	59.0	13,971,164	9,007,500	6,652,807	6,183,843
Wabash	Sept.	2,393	7,369,152	433,488	8,464,545	1,362,826	1,090,571	279,983	3,710,170	6,792,492	80.2	1,672,053	486,618	710,877	929,358
	9 mos.	2,393	71,134,886	3,865,094	80,896,793	12,087,871	10,751,110	2,466,670	34,085,273	62,557,517	77.3	18,339,276	8,047,046	5,816,634	6,874,533
Ann Arbor	Sept.	294	723,449	2,500	742,847	127,491	99,323	25,480	301,605	571,593	76.9	171,254	99,548	49,161	130,006
	9 mos.	294	6,854,324	2,500	7,028,363	904,592	956,740	228,317	2,886,944	5,151,064	73.3	1,877,299	981,091	715,762	1,046,234
Western Maryland	Sept.	837	3,514,947	9,065	3,669,012	498,669	812,538	80,176	1,191,430	2,721,691	74.2	947,321	674,000	559,317	790,046
	9 mos.	837	33,690,278	86,697	35,353,673	4,843,041	7,131,497	711,970	11,195,045	25,275,050	71.5	10,078,623	6,223,000	5,894,498	5,818,768
Western Pacific	Sept.	1,193	4,332,486	231,158	4,696,397	585,335	655,920	208,349	1,348,525	3,015,468	64.2	1,680,929	1,251,502	367,186	1,379,197
	9 mos.	1,193	37,007,303	2,290,694	40,185,839	5,513,370	5,937,106	1,574,052	11,595,551	26,839,905	66.8	13,345,934	7,481,129	5,146,603	5,936,982
Wisconsin Central	Sept.	1,046	2,516,988	47,293	2,699,357	409,419	305,458	63,088	1,115,510	1,986,073	73.6	713,284	159,548	377,459	196,356
	9 mos.	1,050	21,486,788	396,884	23,040,366	3,308,737	4,051,427	585,589	9,737,765	18,591,208	80.7	4,449,158	1,222,877	1,637,547	2,425,807

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Industrial Paint Division, Pittsburgh, Pa.

Factories: Milwaukee, Wis.; Newark, N. J.; Springdale, Pa.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Mich. The Thresher Paint & Varnish Co., Dayton, Ohio. Forbes Finishes Div., Cleveland, Ohio. M. B. Suydam Div., Pittsburgh, Pa.

Pittsburgh Railway Finishes For Every Need

CARHIDE—for wood and metal freight cars of all types.

LAVAX SYNTHETIC ENAMELS—for locomotive and passenger cars.

STATIONHIDE—adds beauty and attractiveness to stations.

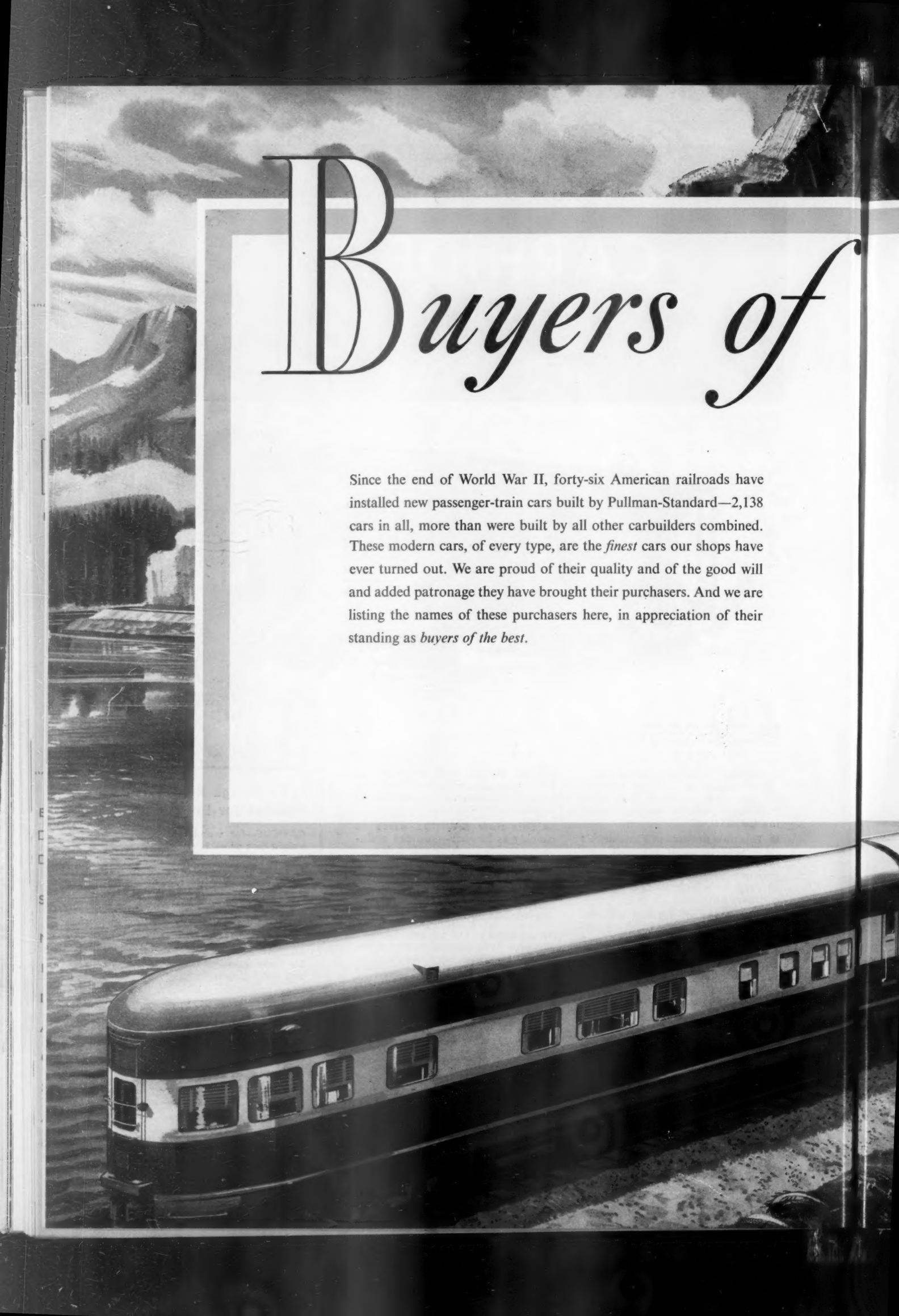
IRONHIDE—for iron and steel fixed properties.

SNOLITE—white fume-proof paint for signs, crossing gates, fences and cattle guards.

PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY



Buyers of

Since the end of World War II, forty-six American railroads have installed new passenger-train cars built by Pullman-Standard—2,138 cars in all, more than were built by all other carbuilders combined. These modern cars, of every type, are the *finest* cars our shops have ever turned out. We are proud of their quality and of the good will and added patronage they have brought their purchasers. And we are listing the names of these purchasers here, in appreciation of their standing as *buyers of the best*.



the best

Buyers of Pullman-Standard Passenger-Train Cars

January 1, 1946, to November 1, 1951

Atchison, Topeka & Santa Fe
Atlanta & West Point
Atlantic Coast Line
Baltimore & Ohio
Bangor & Aroostook
Boston & Maine
Chesapeake & Ohio
Chicago & Eastern Illinois
Chicago and North Western
Chicago, Burlington & Quincy
Chicago Great Western
Chicago, Milwaukee, St. Paul & Pacific
Chicago, Minneapolis, St. Paul & Omaha
Chicago, Rock Island & Pacific
Cincinnati, New Orleans & Texas Pacific
Delaware, Lackawanna & Western
Denver & Rio Grande Western
Erie
Florida East Coast
Great Northern
Illinois Central
International-Great Northern
Kansas City Southern
Louisiana & Arkansas
Louisville & Nashville
Maine Central
Missouri-Kansas-Texas
Missouri Pacific
New Orleans & Northeastern
New York Central
New York, Chicago & St. Louis
New York, New Haven & Hartford
Norfolk & Western
Northern Pacific
Pennsylvania
Pere Marquette
Richmond, Fredericksburg & Potomac
St. Louis-San Francisco
Seaboard
Southern
Southern Pacific
Spokane, Portland & Seattle
Texas & New Orleans
Texas & Pacific
Union Pacific
Western Railway of Alabama

Pullman-Standard

CAR MANUFACTURING COMPANY

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D.C. • PITTSBURGH
BIRMINGHAM • SAN FRANCISCO

In 1500 Automobile Car



Here's how the job was handled...



1 First step in producing U-S-S COR-TEN body bolsters. Here bolster lower pan sections are flame cut from COR-TEN plate. To insure accuracy, the cutting torches are guided by template.



2 After heating, lower pan sections are formed in this press.

3 Both edges of the lower pan section are trimmed simultaneously in this ingenious rig.



4 Automatic welding the upper and lower bolster pans together. At left is a cross-bearer with such welding completed.



Underframes for Southern Pacific

U·S·S COR-TEN reduces weight 756 lb. per frame!

saves 567 tons of steel!

To accomplish these highly desirable results, the Consolidated Western Steel Corporation has taken full advantage of the superior strength and atmospheric corrosion resistance of U·S·S Cor-Ten. The basic problem here was to reduce underframe weight without reducing strength or stamina. U·S·S Cor-Ten was chosen for the job because it has all the qualities that make these results possible.

The original design specified by the railroad was adapted for hand welding. However, Consolidated Western is equipped to automatically-weld formed plates into bolsters and cross-bearer members. So they submitted a welded design, using Cor-Ten, to the Southern Pacific. This had the advantage of being not only stronger and lighter—but was actually cheaper to produce.

As built, each of these welded underframes has a total shipping weight of about 11,600 lb. Of this, 2,480 lb. are Cor-Ten used in the body bolsters and cross-bearers. Weight saved per underframe is 1,160 lb., of which the Cor-Ten construction accounts for 756 lb.

Savings like this—in dollars, in weight and in steel tonnage—that can be obtained by combining good design, modern manufacturing techniques and U·S·S Cor-Ten are important anytime. Today, when it is imperative to make the supply of steel go as far as possible, they are doubly important.

* * *

U·S·S Cor-Ten in substantial amounts has been applied in more than 150,000 freight cars. Our engineers who pioneered its application sixteen years ago, will be glad to show you how you can make your equipment — or any part of it — lighter or stronger, more durable, and often lower in cost, by building with U·S·S Cor-Ten.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND · COLUMBIA STEEL COMPANY, SAN FRANCISCO
NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

5 This close-up of underframe shows automatic-welded COR-TEN bolster after tack welding into position in the assembly jib and before final welding in the rotating jigs.



6 A carload of Southern Pacific underframes ready to leave the plant. Note the dunnage racks at each end of flat car into which the frames are nested to insure safe shipment.



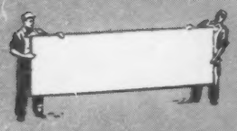
USS TRADE MARK

U·S·S HIGH STRENGTH STEELS

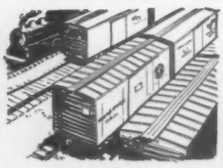
U·S·S COR-TEN · U·S·S MAN-TEN · U·S·S TRI-TEN

1-1126

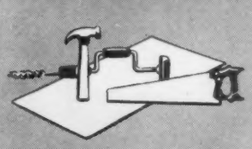
UNITED STATES STEEL



LARGE PANEL SIZE



Over 100,000 Railroad Cars Have Plywood Siding and Lining



EASY TO WORK



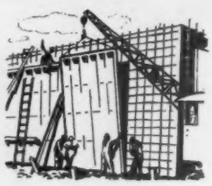
Plywood Sheathing is Strong, Rigid, Easy to Apply



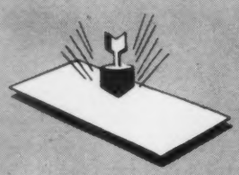
Low-Cost Plywood Bins Are Easy To Build, Give Long Service



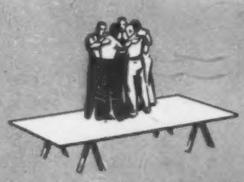
LIGHT WEIGHT



Re-Usable Plywood Concrete Forms Speed Work, Lower Job Costs



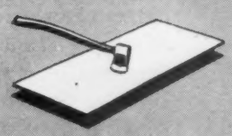
PUNCTURE-PROOF



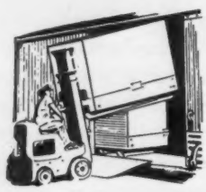
GREAT STRENGTH



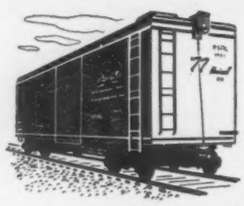
Plywood Panels Provide Strength, Rigidity for Pallets and Dividers



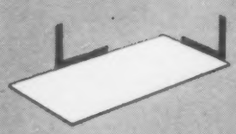
SPLITPROOF



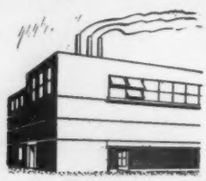
Long-lived Plywood Shipping Cases Are Light, Strong, Re-Usable



New Plywood Cars Are Stronger, Lighter Than Conventional Cars



DIMENSIONALLY STABLE

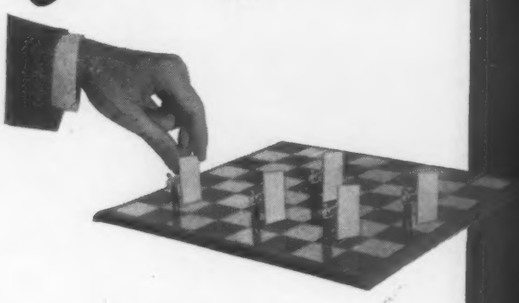


Big Plywood Panels Speed Work On Building and Remodeling Jobs



NATURAL BEAUTY

Smart Move!



● Checkmated by shortages? Here's help *right now!* Whether you need a versatile material to keep your car building or remodeling program "on schedule"... an all-purpose building material for plant, station or warehouse work or an all 'round work horse for scores of packaging and maintenance jobs ... make the smart move—to plywood. Hard-to-hurt, easy-to-work plywood is economical. And to its low cost, add time and labor savings, long life, low maintenance. Douglas Fir Plywood Association, Tacoma 2, Washington.

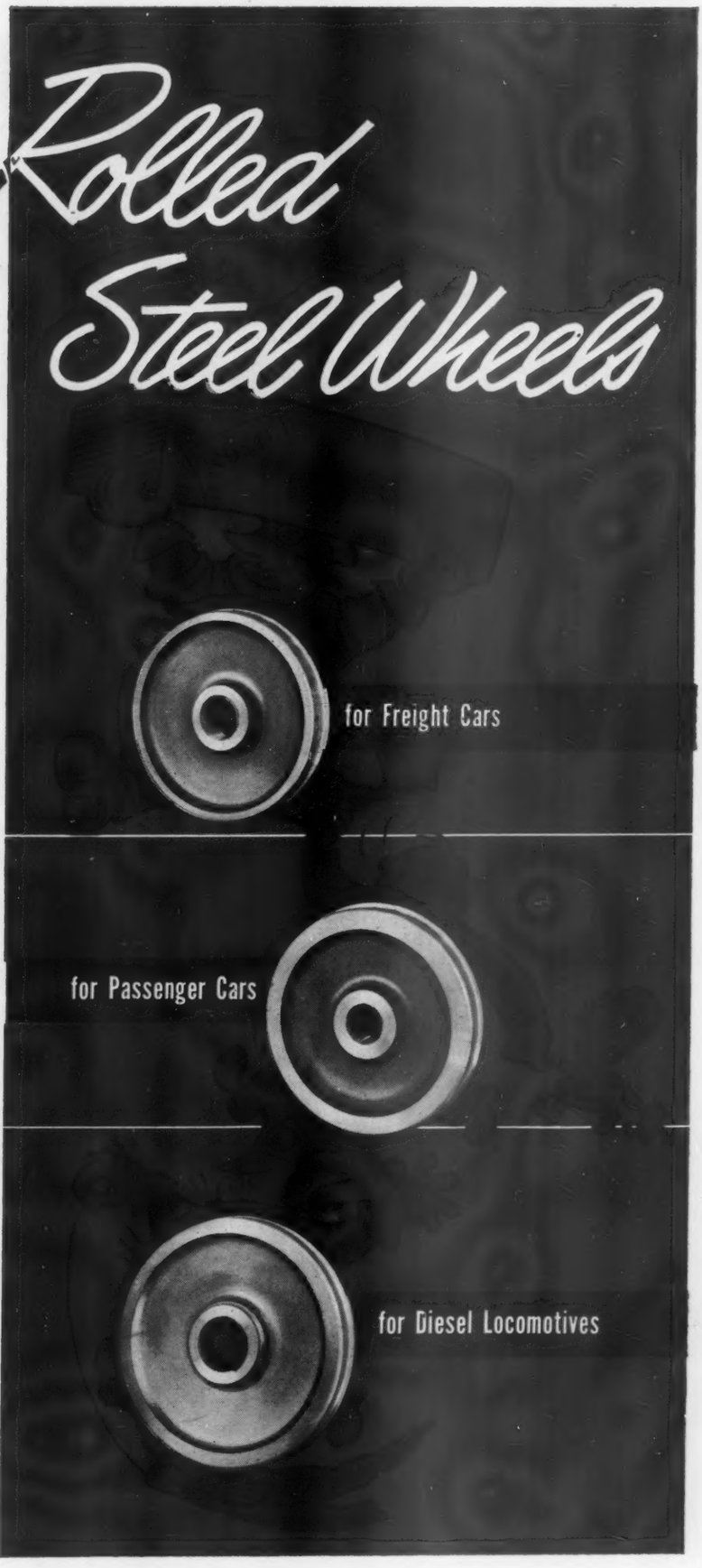
Douglas Fir

Plywood

AMERICA'S BUSIEST BUILDING AND INDUSTRIAL MATERIAL

Edgewater Rolled Steel Wheels

Made under exacting control, from steel produced in our own plant—Heat-treated or untreated—Single wear and multiple wear . . . Made to AAR or ASTM specifications.



E

Edgewater Steel Company

PITTSBURGH, PA.


SAFEST...
MOST
DEPENDABLE...
MOST
ECONOMICAL

... the metal brake shoe with clasp brakes



Experience in testing both metal and composition friction materials shows that the metal shoe with clasp brakes is the safest, most dependable and most economical means in existence for braking trains —under all conditions of speed, weather, and other severe conditions normal to railroad use.

Our specialized laboratories are continually searching for improvements in railway braking—and when improvements are developed, they will be offered promptly to the railroads. American Brake Shoe Company, Brake Shoe & Castings Division, 230 Park Avenue, New York 17, New York.

AMERICAN Brake Shoe COMPANY

BRAKE SHOE AND CASTINGS DIVISION

Keep Ahead of Trackwork Schedules



with Matisa

TAMPER and CLEANER

AVAILABILITY

Long-run payoff on your trackwork equipment is how great a percentage of working availability you get from each machine. With Matisa equipment, you have two important factors that produce maximum equipment availability to keep ahead of trackwork schedules:

★ **STRUCTURAL DEPENDABILITY**

★ **IMMEDIATE ACTION ON PARTS AND SERVICES**

Matisa Automatic Tampers and Matisa Ballast Cleaners are without the "bugs" and "weak links" that frequently cause delays out of all proportion to their structural importance . . . And being structurally designed for continuous performance, both machines offer a degree of dependability we believe is unequalled in trackwork equipment now available.

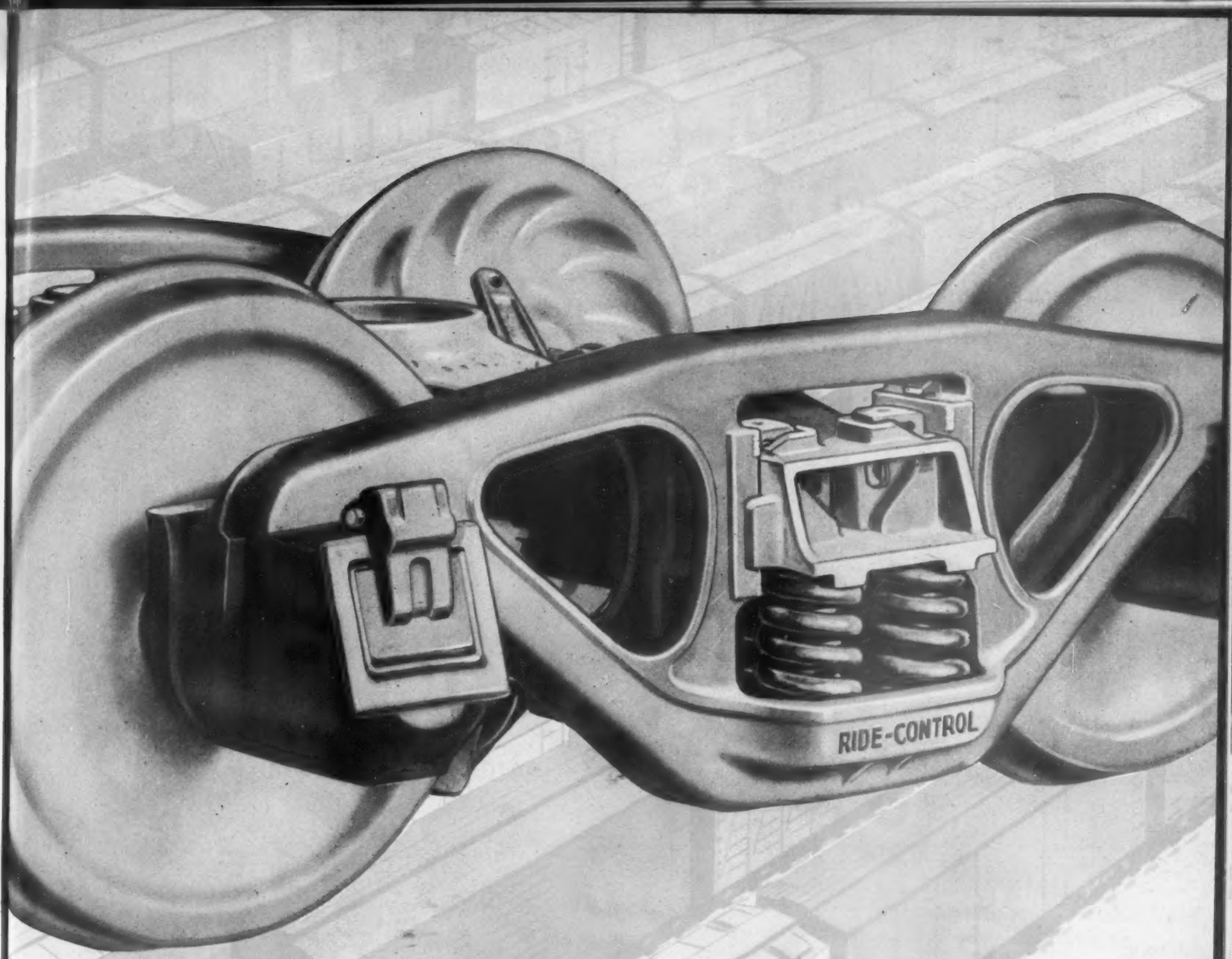
Where long use or unusual conditions require parts or engineering service, Matisa maintains around-the-clock facilities which provide immediate action whenever and wherever necessary.

Ask our M. W. Engineering Department for details on the Matisa machines that are setting new standards for ballast cleaning efficiency and tamping precision throughout the world.

THE MATISA EQUIPMENT CORP.
224 South Michigan Blvd. • Chicago 4, Illinois



ALL OVER THE WORLD *Matisa* TRACKWORK SPECIALISTS



MORE USERS BUY MORE A·S·F RIDE-CONTROL®

TRUCKS THAN ALL OTHER TRUCKS COMBINED

...BECAUSE RIDE-CONTROL IS SMOOTH-RIDING,

LONG-LASTING—CUTS OPERATING COSTS!

AMERICAN STEEL FOUNDRIES

Mint Mark of ◯ Fine Products



POWER, PERFORMANCE, ECONOMY
FOR ALL YOUR CAR-LIGHTING
AND AIR-CONDITIONING NEEDS

Exide-Ironclad BATTERIES

Assure steady lights and comfortable cars on road, in yard, even during long stops

In design, construction and service qualities, Exide-Ironclad Batteries are outstanding. They're built to deliver maximum power and maintain high voltage under the heavy demands of today's passenger train requirements. Exide-Ironclad Batteries also give you:

AMPLE POWER for the entire car-lighting and air-conditioning loads . . . uniform voltage at proper values throughout run.

UNINTERRUPTED SERVICE—trouble-free performance—withstand vibration, shock, service variations and temperature differences.

LOW RATES OF DEPRECIATION—exceptionally long life.

EASE OF SERVICING—easy to add water, keep charged.

LOW COSTS of maintenance and repair.

ABILITY TO MEET ALL REQUIREMENTS of car design and electrical loads. Can be easily changed or recharged in yard . . . are safe, clean, quiet.

For *assured dependability* and *uniform service* equip *all* your passenger cars with Exide-Ironclad Batteries.

THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 2
Exide Batteries of Canada, Limited, Toronto
"Exide-Ironclad" *Reg. Trade-mark U.S. Pat. Off.*

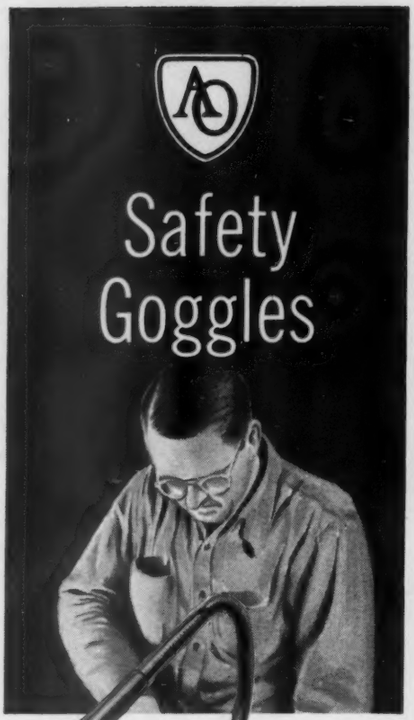
Exide-Ironclad Batteries are the Best Power Buy...AT ANY PRICE

DEPENDABLE POWER



1888—DEPENDABLE BATTERIES FOR 63 YEARS—1951

For Workers Who Need a **LIGHTWEIGHT, STRONG, DURABLE, GOOD LOOKING** Acetate Goggle...





the **AO F9200** is the Buy!

The AO F9200 Ful-Vue affords the highest quality eye protection against flying particles coming from the front, and is available with side shields when foreign objects endanger from the side. While used throughout industry in machine and hand tool work, chipping, grinding, riveting, bottling and welding with the recommended Calobar lenses, the goggle fills a particular need in chemical and electrical plants and other operations where sparks are fire and explosion hazards. Your nearest AO Safety Products Representative can supply you.

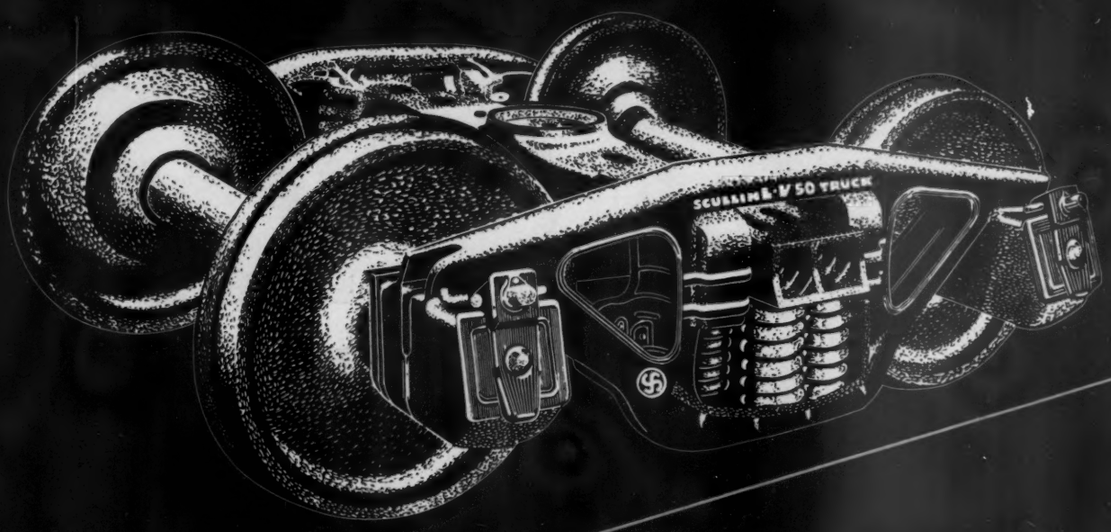
Remember whether the hazard is particles from the work, glare, heat, ultraviolet or infrared, cinders, dust or wind there is an AO Goggle that meets the need.

QUICK FACTS

- Hinges and temples out of line of sight, for unobstructed side vision.
- Face formed keyhole bridge for extra protection and comfort.
- Lenses conform to and cover eye orbit for safety, better vision, appearance.
- Nose pads designed to hold goggle firmly and comfortably. FOR ADJUSTABLE PADS FOR HARD-TO-FIT WORKERS ASK FOR NEW AO FX9200 goggle.
- Available with comfort cable or skull temples. Former have metal core; are enclosed and sealed. Skull temples have extra strong wire core encased in acetate.
- Side shields are perforated acetate to help keep lenses fog-free.
- 6 curve super armorplate clear or Calobar lenses in medium, dark or extra dark shades . . . ground to the worker's own prescription if desired.

American Optical COMPANY
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES



Speed

your manifests
faster—safer on...

SCULLIN L 50 V **TRUCKS**

LATERAL VERTICAL
CUSHIONED MOTION

THE SMOOTHEST TRAFFIC-BUILDERS BETWEEN LCL AND YOUR RAILS



STEEL CASTINGS MANUFACTURER

NEW YORK
CHICAGO
BALTIMORE
RICHMOND, VA.

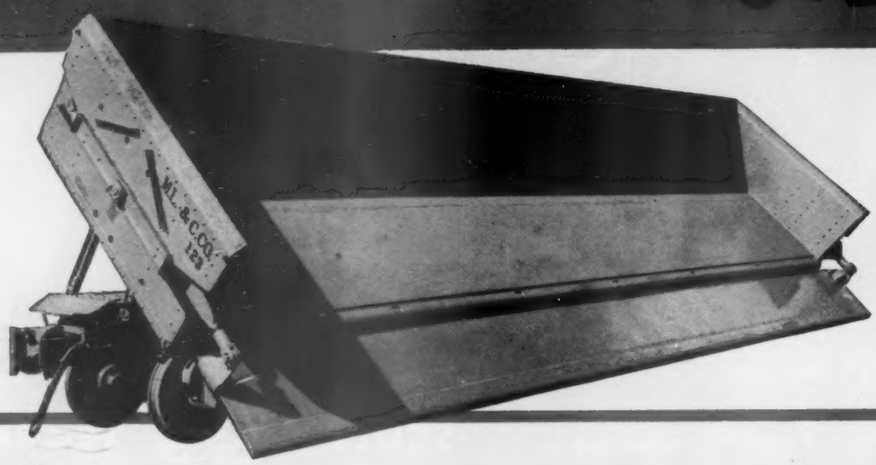
Photo Courtesy
Missouri Pacific Lines

SCULLIN STEEL CO.

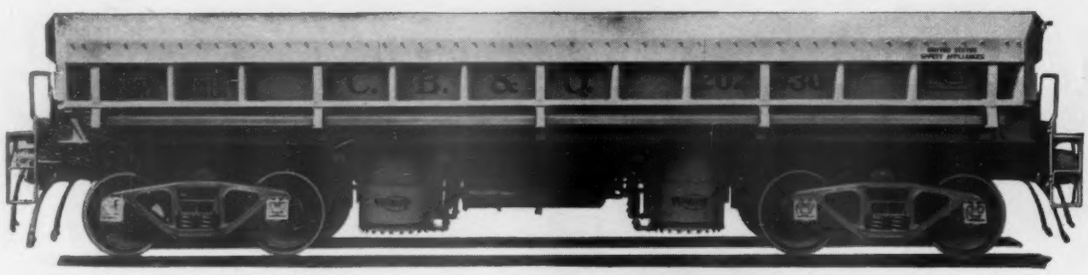
SAINT LOUIS 10, MISSOURI



WE'VE MOVED TO



50 cu. yd., 70-ton capacity, alloy steel, dual-side-pivot, drop-door, automatic air dump car. Capacities up to 60 cu. yd., 100-tons. Plain or roller bearing trucks.



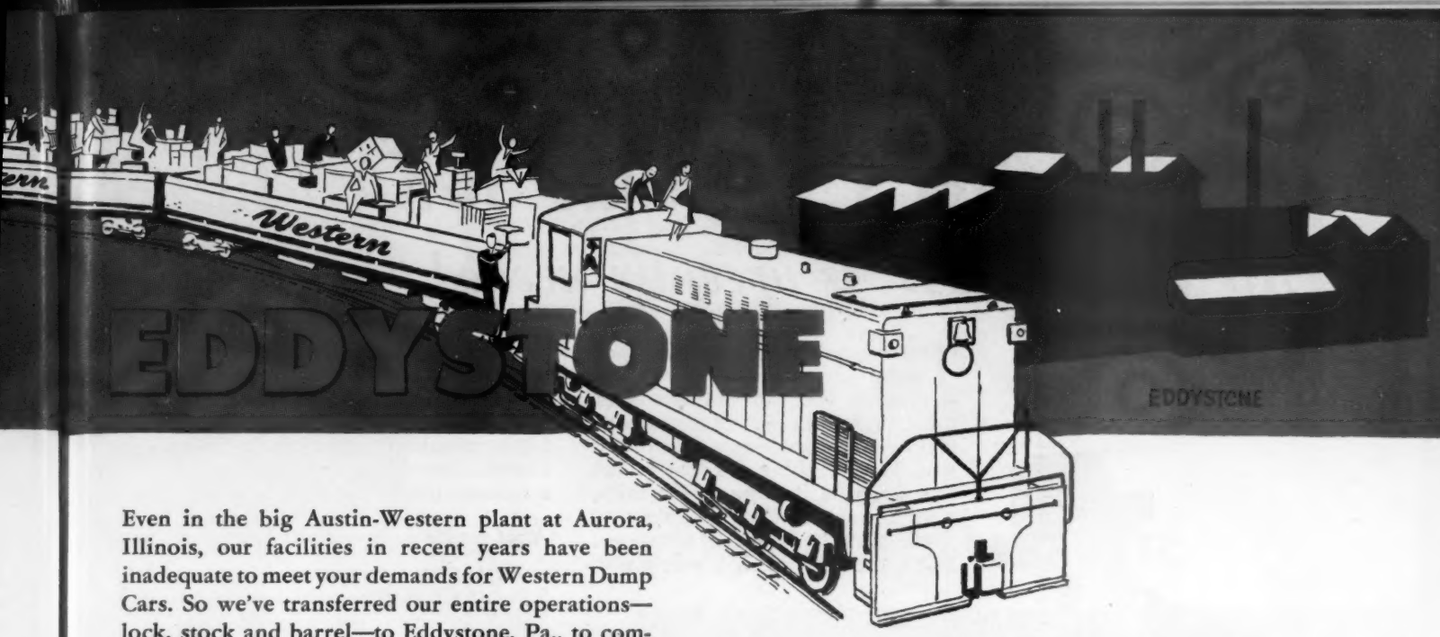
30 cu. yd., 50-ton capacity railroad-type, dual-side-pivot, drop-door, automatic air dump car.



87.5 cu. yd., 70-ton capacity hopper car with automatic air-operated, clam shell doors for immediate bottom discharge of material between rails.

Change your records of our address from Aurora, Illinois, to Eddystone, Philadelphia 42, Pa., where we now solicit your inquiries on dump cars, tunnel cars, hopper cars, mine and industrial cars and cars for special purposes.

BALDWIN-



Even in the big Austin-Western plant at Aurora, Illinois, our facilities in recent years have been inadequate to meet your demands for Western Dump Cars. So we've transferred our entire operations—lock, stock and barrel—to Eddystone, Pa., to combine Western's engineering skill, manufacturing know-how and equipment with those of Baldwin-Lima-Hamilton. In the future, as in the past, you'll find Western Dump Cars are engineered to give you the lowest cost per ton-mile for handling ores, coal, sand, gravel, dirt, over-burden, stone, riprap, hot slag and steel mill refuse, railroad maintenance of way and construction work.

Western DUMP CARS

There's a *good* reason why Western Dump Cars are the most popular in dozens of materials-handling fields—an engineering skill that's firmly grounded on over seventy years experience in producing cars specifically "tailored" to each haulage problem.

In Western Dump Cars, you'll find the streamlined strength—without any sacrifice of ruggedness—that gives you the most favorable ratio of deadweight to profitable payload. And, on Western drop-door, air dump cars, the steep angle of dump, extra-fast action, dual-pivoting that reduces dumping time and results in more trips each day. While Western Hopper Cars —have the full-length, full-width, air-operated, *completely unobstructed* bottom discharge opening that speeds unloading at the hopper.

To learn more about the many other features of Western Dump Cars—to see how they are "tailored" to fit specific materials-handling problems—our engineers are always available to meet with you.

BALDWIN-LIMA-HAMILTON CORPORATION
General Offices: Philadelphia 42, Pa.
Offices in Principal Cities

BALDWIN BLH LIMA-HAMILTON

LIMA-HAMILTON

Let's go... let's get that SCRAP in!

All your SCRAP is urgently needed, NOW

THE scrap shortage is serious. *Your* scrap—every pound of iron and steel scrap you can locate in your plant or factory—is vitally needed and needed right away. For unless you do everything possible to get this scrap on its way to the mills, steel production is bound to slow up. That can't be allowed to happen. But without your help it surely will.



It takes at least one-half ton of scrap to make one ton of steel. With the mills turning out more than 2 million tons of steel per week, over 1400 carloads of industrial scrap are needed *every day*. And industry, somehow, must provide it.

What you can do to meet this emergency

First, organize a permanent Scrap Salvage Committee and make the "drive-for-scrap" part of your daily operations. Search out every possible source of scrap. Turn your old and worn-out equipment, tools and machinery over to your scrap dealer, at once. Dig out your discarded dies, rusted-out tanks and boilers, your old rails and other miscellaneous junk, and start them back to the mills through your scrap dealer. Encourage every employee to report every retired or obsolete machine that now stands idle—see that it is turned in for scrap.

By getting this "dormant" scrap off your premises and into the furnaces you'll be helping not only yourself but America as well. *More* scrap turned in, means *more* steel turned out—it's as simple as that. So let's get going.

You'll find your local scrap dealers listed in the yellow pages of the phone directory.

This page would ordinarily be used to tell you about

U·S·S MANGANESE
STEEL RAILROAD CROSSINGS

but, because without SCRAP we cannot produce steel, we are asking instead for your all-out help in getting more SCRAP to the mills.

UNITED STATES STEEL COMPANY, PITTSBURGH · COLUMBIA STEEL COMPANY, SAN FRANCISCO
TENNESSEE COAL, IRON & RAILROAD COMPANY, FAIRFIELD, ALA. · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

1-1328A

UNITED STATES STEEL


NOW TEST ARMATURE WINDINGS IN ONE OPERATION
G-E's new winding insulation tester makes it possible for railroad shops to inspect armature windings quickly. In many instances windings can be tested in 10 to 15 minutes—saving time and money. The tester quickly locates a short circuit, even though the short may be on the inside of the armature.
In addition, defective insulation on new and old armatures can be indicated. The tester provides the only way to stress turn to turn and coil to coil insulations many times normal operating value. For full details consult your nearest G-E representative. General Electric Co., Schenectady 5, New York.
You can put your confidence in—
GENERAL ELECTRIC
152-27



Easy-Running, Lightweight SOLID BEARINGS Keep FUEL COSTS DOWN, REVENUE UP

Identical tests prove that effective pounds-per-ton resistance of solid-type journal bearings is as low or lower than for so-called "anti-friction" bearings in railroad service. *Winter and summer, the minimum in horsepower hours of energy is required to operate solid bearings over a whole run.*

Solid bearing assemblies also save many tons excess dead weight on every moving train. Compared to other bearing types, the standard solid bearing saves from 750 pounds to 1500 pounds per car—an average of *over 50 tons less dead weight* for each 100 cars in movement.

With minimum running friction and minimum car weight, the maximum tractive effort of locomotives is put to the business of moving goods. Railroads keep fuel costs down, build up ton miles of revenue.

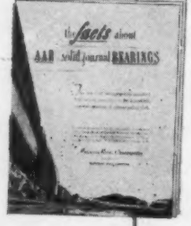
MAGNUS METAL CORPORATION
Subsidiary of **NATIONAL LEAD COMPANY**

Be sure to get your free copy of the *facts*

See why America's Railroads have standardized on Solid Bearings

HERE'S A PARTIAL LIST OF CONTENTS:

- ... Why Solid Bearings are UNRESTRICTED AS TO SPEED AND LOAD.
- ... The facts about FRICTION — Solid Bearings require minimum power over a whole run.
- ... What LIGHTER WEIGHT of Solid Bearings really means in practical train operation.
- ... How Solid Bearings increase the ton-miles potential AT MINIMUM COST.



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"IN THE LONG RUN WE'LL ALL BE DEAD"

The railroads are indispensable for the simple reason that they carry freight which cannot be moved by any other carrier or combination of carriers. . . . The use of federal funds to aid selected types of transportation to the exclusion of competing carriers may compel the government to take over the operation and management of those carriers against which it discriminates. . . . A basically sound transportation policy cannot tolerate discrimination against carriers which render a general transportation service. . . . Further deterioration in the railroads' financial position would make their nationalization almost inevitable. It is not likely that the government would promote other forms of transportation under private management in competition with its own operation. Therefore, in the opinion of the subcommittee, the operators, owners, employees, and users of all other transportation services have a vital interest in preserving the financial stability of the railroads under private management.

The foregoing quotations are taken from page 5 of the recent "progress report" by Senators Bricker and O'Conor—constituting a subcommittee of the Senate Committee on Interstate and Foreign Commerce. It is as apt, unequivocal and succinct a descriptive statement as could be made of the plight of the railroads; and of the self-interest of, even, the railroads' competitors in acquiescing to the steps needed to get the railroads out of the financial dog-house. These conclusions, be it noted, are not the self-serving contentions of a group of railroad men, but are the findings of studious public servants, lacking incentive to take sides in a mere interindustry squabble.

How, in the face of such a finding by competent and impartial inquirers, can the politically hot-housed transportation agencies persevere complacently in insisting upon the continuation of the favors in public aid and absence of effective regulation which they now enjoy but which, ultimately, threaten to prove so costly to them? There is really no baffling mystery here. The behavior of these privileged gentlemen appears paradoxical only at the first superficial glance. They wouldn't seriously deny what Senators Bricker and O'Conor have said—but they simply refuse to get excited, because it isn't human nature to get badly scared of dangers which do not threaten until the indefinite future. The late Lord Keynes, when told how his monetary policies would bring disaster in the long run, was reported to have retorted: "In the long run, we'll all be dead."

Destination Disaster, Unless . . .

The beneficiaries of toll-free waterways and mere token-paying for commercial use of the highways are not stupid; their business success precludes that suspicion as an explanation for their behavior. Therefore, it must be as clear to them as to railroad men or official analysts that disaster for their businesses, as well as for the railroads and the country, is inevitable *in the long run*, if the political favors they now enjoy are indefinitely continued. They are not moved to action because

they hope that *the long run* may not catch up with them during their active careers. They will continue having their fun, with the expectation or at least the hope that posterity and not they themselves will be caught with the bill when the piper comes around to be paid off.

The foregoing is set down, not in moralistic judgment, but merely as a record of characteristic human behavior in such circumstances. "He that is without sin among you, let him first cast a stone." The dependable way of changing the behavior of people is, usually, not by appeal to their "better nature"—frequently nonexistent, or very feebly present at best—but, if possible, by *changing their circumstances.*

Imminence a Powerful Impetus

If these fellows who are doing the things that make government ownership inevitable in the long run, were suddenly confronted with the certainty that government ownership would come *in the next few months*, failing radical reform in national transportation policy, might not their behavior change for the better? Wouldn't imminency be a more effective argument with them than the sweet by-and-by has been? It usually is.

Suppose, for instance, that the directorates of one or several large railroads would carefully prepare a list of the minimum changes in public policy required to give reasonable assurance of financial self-sufficiency to their properties and would present this program to the President, to Congress and to the regulatory authorities, adding that—

> In our judgment these changes are the minimum under which these properties can be operated safely, adequately and efficiently in the service of commerce and national defense under private financing. If you find it impossible or inexpedient to establish these minimum conditions with reasonable promptness, we request in the national interest that you take forthwith the necessary steps to have the federal government acquire these properties under fair appraisal so that a supply of capital may become available to them from public sources, which public policy denies them in the private investment market.

It is not likely that any railroad directorate is going to follow this suggestion, because railroad directors are human too. They are inclined to postpone unpleasantness as long as possible, hoping that a miracle may impart foresight to the railroads' hot-housed rivals—just as these rivals are prone to postpone sacrificial foresight, in the hope that so strenuous a virtue may not be required of them.

A sudden falling off in total production and traffic by 25 per cent or more might, however, precipitate such a crisis that, quite possibly, time could not then be taken for the deliberative process of reforming national transportation policy. *That* cure would then come too late. The transportation business can still be saved for economic freedom, but not much longer by procrastination.

VITAL TOPICS ON RAILROAD DIVISION PROGRAM

During the annual meeting of the American Society of Mechanical Engineers, which will be held next week at the Chalfonte-Haddon Hall Hotel, Atlantic City, N.J., the society's Railroad Division will be responsible for three technical sessions to consider matters of current interest to the railways and railway supply industry. These are scheduled for Wednesday afternoon and all day Thursday, November 28-29.

Economic factors in the application of roller bearings and waste-packed plain journal bearings on freight cars will be thoroughly covered. Operating experience with the Talgo train and development of the G.M. two-cycle railway diesel engine will be described. Further light promises to be shed on the big question of coordinated rail-highway service.

Railroad and supply company engineers will meet here on an equal footing. This unique, essential and highly regarded feature of the A.S.M.E. is perpetuated by the custom for several key positions in the Railroad Division, including that of chairman, to be filled alternately, one year by an engineer employed by a railway and the next by an engineer with supply industry affiliations.

An analysis of recent program subject matter and authorship confirms the conclusion that the Railroad Division is dominated by neither railroad nor supply men—hence that division offers a forum for discussion of subjects in a way not normally considered practicable by strictly railroad associations. This general policy is well established.

A list of all authors and papers presented before Railroad Division sessions of the A.S.M.E. in the past 10 years includes a total of 153 papers. Of these, 58 dealt with locomotive design and operation; 56 covered car design and construction; 11 were on the general subject of material conservation and utilization; 10 were general surveys of railroad mechanical progress; 7 related to engineering phases of specific transportation problems; 6 to locomotive fuel; and 5 to manpower requirements.

As to authorship, 70 of the papers were prepared by railroad men and 18 by consulting engineers representing universities, independent research institutions and similar establishments. Ninety-six authors represented the railway supply industry and described research and development projects of their respective companies—projects which, in the aggregate, have a most important bearing on the efficiency of railway operation. It is, therefore, fair to conclude that the A.S.M.E. deserves, and will repay, hearty support from both railroads and supply companies.



DIESEL LOCOMOTIVE PROGRESS— And Some Problems It Entails

With about 40 per cent of total train-miles and 60 per cent of switching being handled by diesel power, many current difficulties require solution

By E. K. BLOSS
Mechanical Superintendent,
Boston & Maine

Last year, diesel locomotives handled roughly 40 per cent of the country's total train miles and about 60 per cent of the yard switching. The railroads are apparently about halfway toward full dieselization and it is an appropriate time to discuss diesel operating conditions, review problems successfully met and discuss ways of making this useful tool still more efficient.

First, there is no need to consider making diesel engines any larger than they are now. Present definite limits in locomotive size give a cross section in which to work about 10 ft. wide by 10 ft. high under an arch roof. Present diesel locomotives occupy just about all of this space that they can and still allow room for maintenance work and the installation of accessories. They cannot too readily be increased in length either, because of weight limitations of about 125,000 lb. on a four-wheel truck, which is the most economical and desirable type of truck to be used under a locomotive. With ordinary materials and methods of construction, the length of a diesel unit is limited to about 50 ft.

This article is adapted from a paper presented by the author at the national diesel engine meeting of the Society of Automotive Engineers, held at the Drake Hotel, Chicago, October 29 and 30.

It might seem that much more than 1,500 or 1,600 diesel horsepower could be built into a space approximately 10 ft. by 10 ft. by 50 ft., but to make a locomotive, a lot more is needed than just a diesel engine. There must be some way of getting the power from the engine to the driving wheels of the locomotive and American railroads have accepted the electric drive pretty much as standard. The electric drive, and suitable control for keeping the electric power output within the confines of diesel engine power output, require a fair amount of space, again with sufficient surrounding room for accessibility and maintenance.

Since all trains must be equipped with air brakes, we have to add a fairly large air compressor and large reservoirs for the storage of compressed air. A suitable cooling system for the engine unit must operate successfully at full engine output with ambient temperatures anywhere from —50 deg. F. to 120 deg. F. and there must be suitable auxiliary or control equipment for this

cooling system make it function properly with good engine operating temperatures at either of these extreme ambient temperatures.

All railroaders would like to have the diesel locomotive carry sufficient fuel to enable it to run for a week, so there is the problem of suitable fuel tank and other accessory equipment to handle this fuel from tank to diesel engine. One more accessory, which is a must in the operation of passenger trains, is a steam generator to provide several thousand pounds of steam per hour at 150 lb. per sq. in. or better, together with just as much water supply as it is possible to cram into the remaining space and not exceed weight limitations.

It may sound as though we are trying to make this problem of building a diesel-electric locomotive just as hard as possible, but nothing mentioned so far has been in any way an optional attachment; everything is absolutely necessary to make diesel locomotives useful to railroads. The fact that space and weight limitations and the design and development requirements of various equipment to fill these needs have been successfully met is indicated by the placing of orders for approximately 4,200 new locomotives during 1950, 99 per cent of which were diesels.

The variations in service demands on diesel locomotives are extreme. If put into main-line service, a locomotive will be expected to run for hours on end at relatively high speed, and in certain parts of the country with relatively even loads. The same locomotive, however, in rolling country may be alternately working and coasting with entirely different load factors on the diesel engines. Then in real mountainous country the locomotive may be required to work at full output up severe grades for stretches of several hours which will be followed by maybe several hours of just idling on the down-hill side of the mountain. Under usual operating conditions, perhaps the next day this same locomotive will be needed in local service in which it must operate with frequent stops and starts involving short alternate periods of full load operation and idling with the same cooling system, the same lubricating system and the same controls used in main-line service the day before.

The same locomotive, and to a great extent the same equipment, may find its way into switching service where, over a 24-hour period, the load factor is likely to be down somewhere around ten per cent or less, but where full horsepower is needed for efficient operation although it may be needed for less than one minute at a time. Consider for a moment the cooling system requirements for this application as compared to main-line operation and it is easy to see that on one hand we have a real problem of providing sufficient radiation to keep the engine heat down to a good operating temperature. while the same cooling system in switching service will have to function to hold the engine up to a reasonable operating temperature.

Summer vs. Winter Operation

Another operating condition which must be met on most railroads is the ability to cope with summer or winter weather without any modification of the locomotive. We have had locomotives in service during the summer that apparently had excellent cooling systems and adequate provision of air for combustion, air for cooling the electrical equipment, and air for the air-brake system. When the real blizzards of northern New England were encountered by these locomotives, it appeared for a while that it would be necessary to hire an additional man to shovel snow out of the interiors—and, as a matter of fact, this has been done. To those who have not seen it, it is almost unbelievable the way powdered snow will find its way into places where it is not wanted. While ordinarily we think of the diesel engine as being immune to such things as snow and water, the various accessories are quite sensitive to snow and must be suitably protected and yet supplied with sufficient air for cooling purposes at all times.

The matter of changes in altitude and humidity presents problems which a well designed diesel locomotive must meet, both the engine and the accessory equipment. A diesel locomotive on one trip between maintenance points will be expected to operate satisfactorily at sea level through dense fog and not too much later on operate through the rarefied atmosphere existing at 8,000 or 9,000 ft. elevation, with temperatures probably as much as 100 deg. lower than prevailed at some other point in the run; back again through fairly normal pressure, tremendously low humidity, and perhaps end up again in snow and ice.

Because of differences in service conditions, any diesel engine suitable for use in a locomotive should be able to operate successfully at several different speeds and horsepower outputs. Operating over flat level country may require a high rated horsepower output for the necessary acceleration of a train to produce good schedules, but once the maximum operating speed is reached, partial throttle operation may then continue for a long period.

A good diesel locomotive must meet all of the operating conditions just outlined over a run of 100 miles or 2,000 miles, with no attendant. The fuel systems, lubricating systems, cooling systems, electrical systems, air-brake systems, steam-heating systems, must all be designed to operate automatically over the entire range of power demand, outside temperature, rain, sleet, snow, dust, humidity, uphill and downhill, without any personal attention on the part of the train crew.

Not only must the controls operate automatically but they must have safety features which will prevent major destruction of the engine or its accessories if anything does go wrong. Furthermore, railroaders expect the equipment to be such that if operating faults develop they can be easily corrected, yet sufficiently serious to operate the safety protective devices. Things have to be arranged so that a man who for the past 40 years has shoveled coal into a steam boiler can, with a few hours' training, find the fault, and correct it so the locomotive will then proceed with normal operation.

Oil and Fuel Leaks

The growth in use of diesel locomotives indicates that these problems have been fairly well met, but it might be worth while to call attention, at this halfway mark, to some of the difficulties which still exist and are considered by railroads as veritable headaches. Among these, and not perhaps in the order of importance, are such things as warming up engines. All diesel engine designers insist that no attempt to put full load on an engine should be made until the operating temperature is up somewhere above 120 deg. F. About the only way this can be accomplished on a lot of diesels is to turn live steam into the cooling system, which is pretty much of an operating impossibility. There is much room for improvement in design along this line.

The casual observer of automotive or mobile diesels must be aware of the fact that they have oil leaks. These apparently are considered a necessary evil in highway vehicles, and unless they get bad enough for oil replace-

ment to become a problem the leaks are not considered too seriously. Many railroad diesel engines have a lubricating oil capacity of about 200 gal. This is circulated through the engines at rates of better than 100 gal. per min. and these engines are housed in an inclosure. Relatively small oil leaks, percentagewise, on these engines operating perhaps 24 to 200 hours between maintenance periods, will make an unquestionably unsavory and, in fact, dangerous condition. They are one of the big headaches of today.

Fuel leaks seem to be less prevalent than lubricating oil leaks, but there still are enough of them to be a problem, particularly if the manner of putting fuel into the storage tank on the locomotive is included. Today's locomotive design almost invariably provides a horizontal filling pipe rather than the vertical pipe which is almost standard on highway vehicles. One glance at the ground around diesel locomotive fuel supply stations would convince anyone that this design is not too satisfactory.

Problems of rain, snow and sleet and, in certain sections of the country, dirt and dust, already have been touched on in passing. They really present serious operating difficulties. Not only do we have the annoyance of snow entering the body of the locomotive, but we may have accumulations of snow built up in places where, of itself, no harm would be done, but where its melting may lead to serious difficulties when the water gets down into the electrical equipment. This problem of keeping rain out of undesired places can be solved and must be solved, but unfortunately snow finds its way into places which are suitably protected against rain and so must be dealt with as a separate problem.

Sleet causes troubles unlike those produced by rain and snow in that air intakes with small openings, helpful in the exclusion of snow and rain, may ice over completely in sleet storms and shut off the supply of air. In addition, shutters used in the water temperature control system often become frozen, sometimes in the open and sometimes in the closed position, as a result of sleet and ice formation, thus rendering the automatic temperature control system inoperative.

What About Railroads' "Whims"?

One other difficulty that has to be faced by the manufacturers is the weeding out of so-called whims from necessities. Generally the manufacturer seems to take the attitude that anything which he has not chosen as standard equipment is purely a whim of the railroad. Railroads, however, are often subject to long-standing working agreements with the brotherhoods, to rules and regulations of state and federal authorities, and to their own operating rules which may differ slightly from one road to another, with the result that certain things, perhaps not necessary as standard throughout the country, become essential for an individual road.

Sometimes these so-called whims eventually become a fundamental part of the locomotive for one reason or another. As an example, for a time one manufacturer put a rather light screening over the engine cooling-fan air-exhaust. Most railroads insisted "as a whim" in having a catwalk across this light screen, as the railroads felt it would be impossible to keep men from walking across the top of the locomotive and consequently a safe means for so doing had to be provided. Recently a man stepped off the catwalk on a locomotive so equipped and received serious injuries as his leg went down into the cooling fan, and now the Interstate Commerce Commission insists that the grating across this



opening must be strong enough to support a man at any point. Thus a "whim" becomes a "must."

Most railroads are set up to do locomotive maintenance work on a regular periodic basis, generally at intervals of about 5,000 miles. The mileage between these periodic inspections may be increased or decreased as operating conditions e.g., the length of the run, may dictate. Any device, accessory or part of the engine which requires attention at times not matching up with the basic intervals will at first be a problem to railroads operating the locomotives. This problem will be solved either by postponing inspection until the next regular scheduled inspection, moving the inspection ahead to the next earlier inspection, or ignoring the equipment altogether. The latter course is disastrous but sometimes happens, although it is never done purposely.

The heavier maintenance, which comes perhaps annually or at intervals of somewhere between a quarter- and a half-million miles, presents a real problem to the designer who must attempt to meet two quite different conditions existing on the railroads. First, consider the railroad just acquiring diesels to replace steam operation. Most railroads, because of financial conditions, have to start a dieselization program in a rather moderate way and gradually build up the fleet of diesels over an extended period. These railroads having relatively few diesels prefer to do everything that is within reason at enginehouses or running maintenance points and much prefer a locomotive in which all of the accessories and parts can be removed and reworked or renewed on a progressive basis with a minimum amount of "taking the body off the chassis" in order to perform the work. This requires design features which provide minimum size and weight of wearing parts, maximum accessibility within the locomotive structure, and clearance permitting removal of these parts.

The other side of the picture occurs on those railroads where the fleets have grown to a sizable extent, where real heavy shoppings are necessary, and where the number of units justifies such things as entire spare engine and complete accessory units. When this point is reached, railroads quite generally find it more economical to put the locomotive in a shop for an overhaul and do everything at once. In this case, roof hatches, hoods, and other parts of the locomotive are removed, the entire engine and accessory equipment is taken right out and all of the repair and maintenance work is performed on the floor.

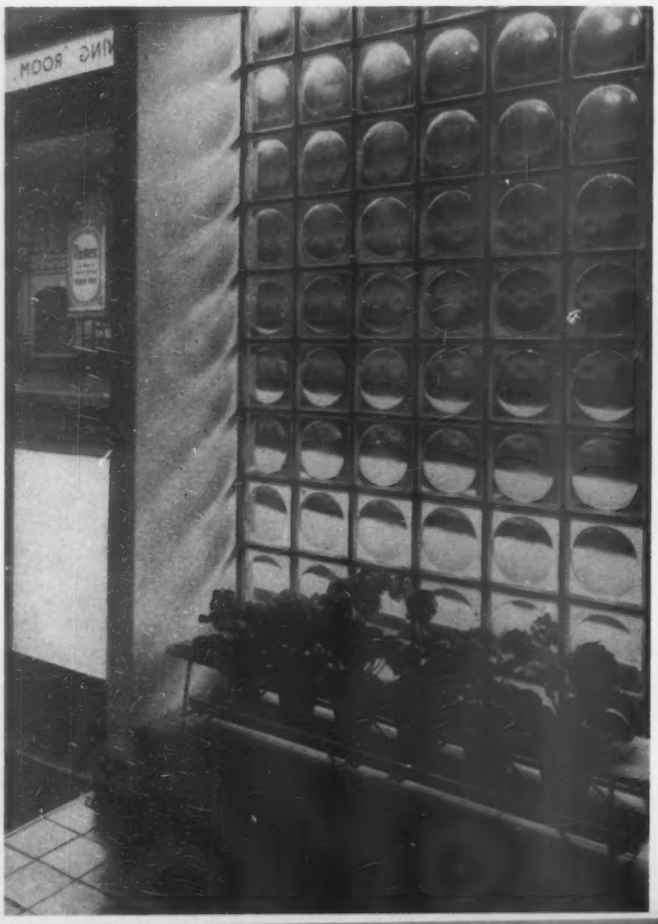


AMSTEL STATION, AMSTERDAM • • • One of the best examples of the "new empiricist" trend, featuring casual composition and functional design based on flow of passengers

LEICESTER STATION, ENGLAND • • • Effective use of architectural glass and tile at the dining-room entrance welcomes the diner and bespeaks easy maintenance



STARNBERGER STATION, MUNICH • • •



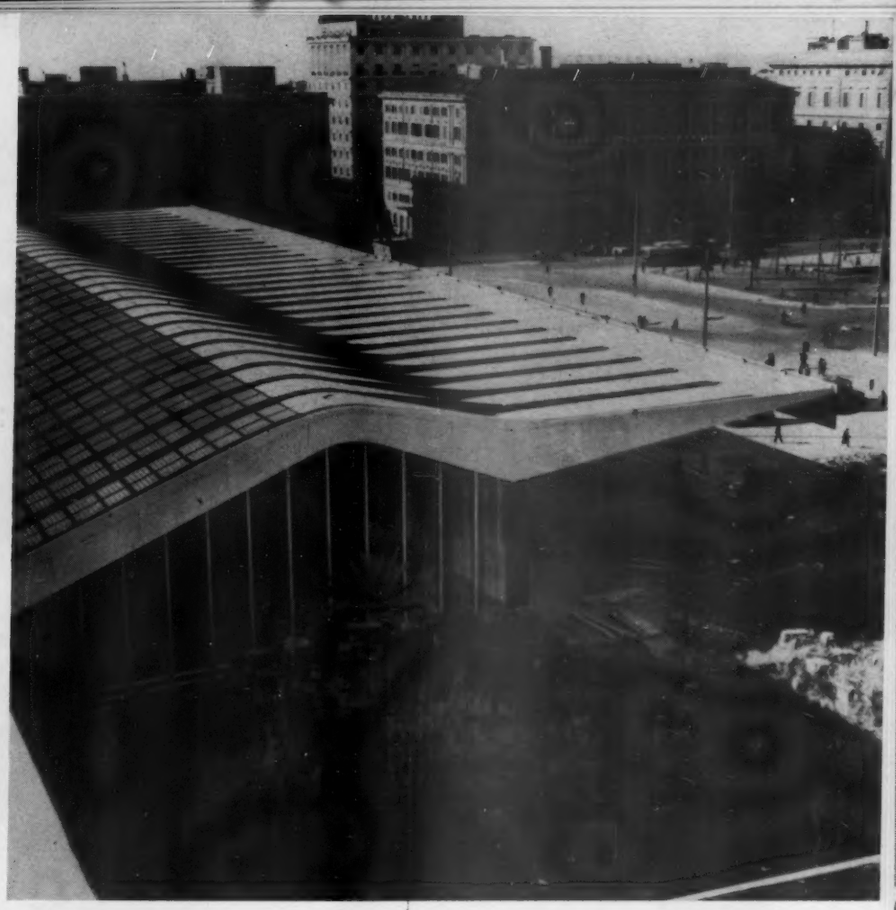
. . . Modern Station

Photographs show the Continental trend toward complete departure from historic precedents in design

Here, in the accompanying photographs, is concrete evidence of what some contemporary architects have been acclaiming as the "developments in design and esthetic theory" that have been influencing railway station design in European countries—while, in the same breath, they have been calling American railway stations "neglected (architectural) opportunities." Not only do these photographs make it possible to compare European practices with American station designs of recent years, but they also indicate that traditional architectural practices across the Atlantic have largely been cast aside. All of this was brought out at an exhibit of photographs of railway stations in Europe, held in London at the



Glazing in the walls, partitions and ceiling dominates the interior and produces a maze of reflections



NEW TERMINAL STATION, ROME • • •

This streamlined covered vehicle approach is definitely modern in contrast to the old city wall, the "Agger," in the foreground

Architecture in the European Manner

Royal Institute of British architects. The pictures reproduced here formed part of the exhibit.

In the past, railway architecture in European countries has been considered to have been influenced by the distinctive characteristics of the railways themselves or of the countries served by them. For instance, British railway stations have conformed to what has been called "sturdy regionalism," whereas the French station has often been considered by the people to be a *monument publique.*

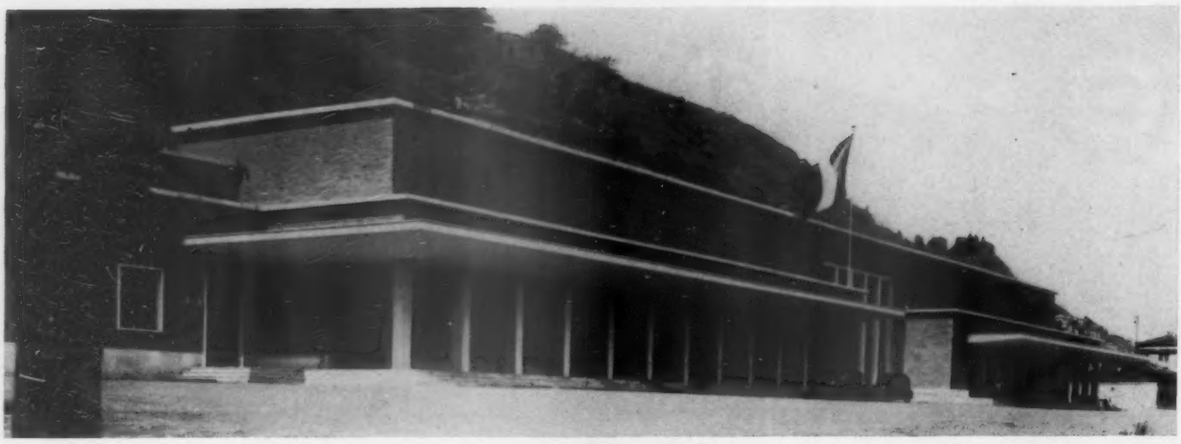
To some extent, however, such views do not apply to the newer stations constructed within the past 10 years. Even before the war, and more particularly since then, the modern railway stations of western Europe have been designed according to what has been called the "new empiricist" trend, emphasizing the "human touch" and a "casual architectural composition." But even more important in the eyes of railroad men is the fact that most of these new stations have been designed, above all else, as functional units of the transportation plant as a whole.

A typical and outstanding example of the "new empiricist" architecture is that of the Amstel station on the Netherlands Railways at Amsterdam, Holland, construction of which was started in 1939 and completed during the war. The design of this station was predicated on careful preliminary studies of the functional requirements of the service the building was expected to provide.

To H. G. J. Schelling, architect to the Netherlands Railways, these detailed studies dictated a commodious concourse, about which most of the passenger requirements could be centered. With this in mind, the concourse at Amstel became a lofty structure, daylighted on its longitudinal sides by window walls extending from the high ceiling down to a point just above the roof of adjoining single-story buildings. Around the concourse are arranged such passenger facilities as ticket offices, baggage rooms, lavatories, and shops.

Structurally, the exterior of the station features the traditional Dutch use of brickwork, in this case a light brick with raked joints, highlighted by horizontal bands of glazed earthenware. In the interior the main steel frames are welded and have been left exposed beneath the roof plaster and inside of the vertical fenestration.

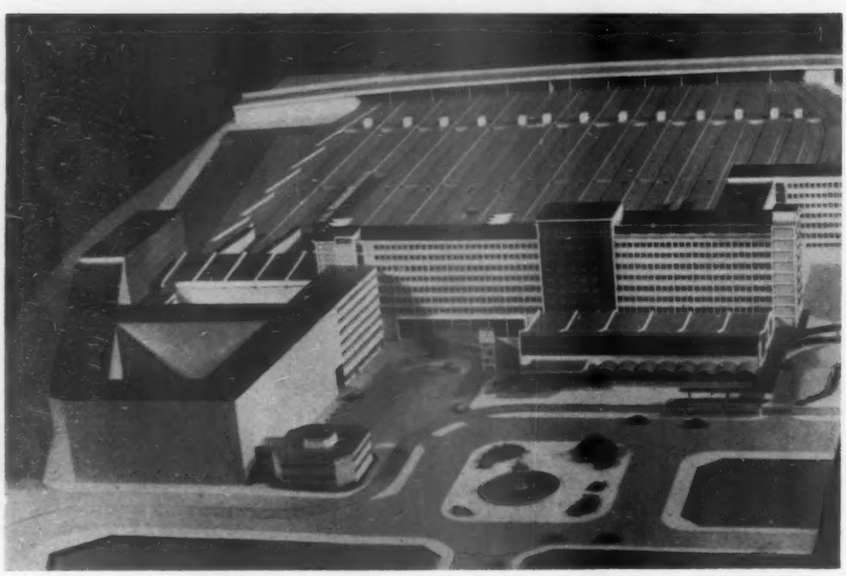
This station and a companion structure at Muider-



COMO STATION, ITALY • • • Simply designed, emphasis being provided by a colonnaded vehicle approach with a cantilever roof



MESSINA STATION, SICILY • • • More straight, flat lines, in native stone, harmonizing with local architectural styles



NEW CENTRAL STATION OSLO, NORWAY • • •

Architect's model of one of the largest station reconstruction projects in Europe. Note the contrast between the windowless building on the left and fenestration elsewhere

poort, along with an unusual building at Enschede, made entirely of reinforced concrete in modular segments of various colors, have been called important contributions to the "fine architectural traditions" of Holland and have distinguished the Netherlands Railways as one of the leaders in the "new empiricist" trend.

Classical Forms Abandoned

While the Dutch have been basing their station designs on functional principles, the Italians have been going to the other extreme—using grandiose, esthetic designs. This is particularly true of their Terminal station in Rome which has been constructed to replace the old Rome Termini station. The latter had been constructed originally in 1871 as the first station in Rome and was designed as a monument to the *Risorgimento*, or renewal of the classical feeling in art. As such, it was one of the most beautiful stations in Europe. Thus reflecting the tradition of historic Rome, with its foundations practically straddling the site of the "Agger," or city wall, which was built in the sixth century B. C., the old station logically could only have been replaced with a structure having its functional requirements subordinated to the artistic.

With this in mind, a prize was offered for a design that would make the best compromise between the functional and esthetic needs of the station. How far the winning design went in effecting this compromise can be judged, to some extent, by the modern canopy that welcomes railway guests at the station's front door.

Elsewhere in Italy the reconstruction of railway stations is in accord with the simplicity of design, coupled with straight lines and sober streamlining, that has usually characterized provincial architecture in that country. In general, the style has been made to conform to that in vogue in the district in which the station is located.

Elsewhere Theme Varies

The stations at Como near the northern border, and at Messina in Sicily, illustrate the extent to which flat lines have been used in the new stations built at outlying points in Italy.

Elsewhere in Western Europe, modern stations have retained, in general, the "character" of the individual country or railroad which they serve. Naturally, the "theme" of their design varies, but in most cases they are modern in every respect consistent with functional and economic requirements.

The remaining illustrations demonstrate the variety and progressiveness of railway station architecture throughout Western Europe. They include a picture of a model of the new Central station in Oslo, Norway, the Starnberger station in Munich, and the glazed entrance to the dining room in the station at Leicester, England.

Letter from a Reader . . .

Dining Car Losses— No Bugaboo

St. Louis, Mo.

To the Editor:

Recently, dining car "losses" have been stressed so vigorously that railroad managements, as well as shippers and regulatory agencies, have cast critical eyes on the dining car service — as though it were some sort of devouring monster — with resulting confusion and an inevitable tendency to demoralize otherwise efficient service by hamstringing dining car operations, in the interest of false economy.

The dining car is far from being a problem child — it is the exact opposite. Dining cars are the show windows of the railroads and the best passenger service advertising medium they have. Advertising doesn't *cost* — it *pays*. All major railroads maintain expensive advertising departments to attract patronage.

The fact that Interstate Commerce Commission accounting regulations do not permit charging off dining car "losses" to advertising does not mean that they should not be so handled. And why should they be termed "losses"? One doesn't speak of engineering, or mechanical, or signaling department "losses." Simply because the dining car department does produce some revenue to offset expenses is no reason for terming its expenses as "losses," if all the other money a railway spends without direct revenue accrual is not also classed as "losses."

The wage increases for dining car employees since 1940 and the accompanying upward surge of food prices have made it impossible to keep pace with the trend by increased menu prices. The first requisite of good dining car operation is service to the patrons, and while no dining car officer would waste one penny of railroad funds, at the same time he must give the brand of service that his management expects and to which the traveling public is entitled. No one has ever yet been able to measure in dollars and cents the revenue that accrues to the railroad — both from passenger and freight traffic — as the direct result of a well-balanced, nicely cooked meal, served by friendly, courteous personnel on a dining car. In reverse, if the service is poor or just mediocre, the resulting loss still cannot be measured in dollars and cents, but it's there. Any dining car economy effected at the expense of service is a distinct overall loss to the railroads.

Because of fixed overhead, tied in with train schedules, high food costs, union working agreements, fuel, ice, cleaning and other operating costs, it is simply impossible to strike an equitable balance of costs and revenues. On the other hand, little or no prominence is given to the relative stability of the ratio of expenses per dollar of revenue from dining car operations on most railroads.

Now let's look at the picture from the other side of the tracks. Just why has so much attention been focused on dining car "losses"? On our railroad, going back to 1930, we find dining car revenues of $256,542 and expenses of $334,358, which figures out to an operating ratio of expense per dollar of revenue of 1.303. In 1940 the revenues were $195,534 with expenses $265,624, a ratio of 1.358. In 1950 the revenues were $533,171 with expenses of $726,057, a ratio of 1.361.

In other words, there has been very little change on our railroad in the ratio of expense per dollar of revenue resulting from dining car operations over the past twenty years, and we assume that the same is true on most of the nation's railroads despite the many ups and downs encountered in the twenty year period. A further examination of the records will disclose that modern dining car operations are much more efficient and satisfactory from both economy and service standpoints than at any time in the past, despite operational handicaps that sometimes seem insurmountable.

Pierre E. Griffith,
Superintendent Dining Cars, Wabash, and past president, Association of American Railroad Dining Car Officers

C. & O. Uses Time-Saving Payroll

Specially written for *Railway Age* by
JOHN L. VARLEY
Assistant to General Auditor
Chesapeake & Ohio—Pere Marquette District

An easier, less troublesome and faster method of reconciling the voluminous paycheck bank account each month is a windfall to any hard-pressed auditor of disbursements. The auditor of disbursements of the Pere Marquette District of the Chesapeake & Ohio has been enjoying such a windfall for almost a year now, and his counterpart on the Chesapeake District is about to do the same.

Prior to 1951 the C. & O. used a more conventional plan in which, before distribution to employees, punch card checks were reproduced to secure a duplicate set of cards. The duplicate cards were held and matched with the cancelled checks returned by the bank every 30 days. This process resulted in a group of unmatched duplicate punch cards each month, which were then listed and totaled on an accounting machine. These cards represented checks issued but not presented to the bank for payment. The total amount so secured reconciled with the balance in the payroll account.

About a year ago, however, the National Bank of Detroit, which is one of the depositories of the Chesapeake & Ohio on the Pere Marquette District, and a large user of punch card equipment, as a service to its customers originated a new "Account Reconciliation Plan." The Pere Marquette disbursements' office, working with the bank, adopted and installed a variation of the standard plan, which was tailored to fit the needs of the P.M. District for payroll checks. Some months after the institution of this plan on the Pere Marquette District, a similar operation was worked out with the Chase National Bank of New York for use by the Chesapeake District. This plan, briefly, is as follows (See illustration):

1. Twelve separate bank accounts have been established in the National Bank of Detroit, one for each calendar month. These accounts are known as "audit month paycheck accounts."

2. Voucher checks are prepared transferring funds from the P.M. District general fund account to the "audit month paycheck account" in the total amount of each payroll made up during the month, as soon as the individual payroll checks are prepared for distribution to employees. As a mechanism to simplify the timing problem, an estimated transfer of funds rather than an exact amount is made on all except the final transfer for the month. With this final transfer we adjust the account to the exact total of all payroll checks issued during the month.

3. The bank follows its customary plan in its bookkeeping department, with important exceptions. The "audit month paycheck account" remains open for a period of roughly three months (i.e., checks issued to cover wages earned in January are charged to the January account, as they are presented for payment until March 31). This practice allows sufficient time to elapse for the greatest quantity of checks to clear the account, thus minimizing the number of outstanding checks which are then past the 60-day time limit printed on the check.

4. At the close of business on the last banking day of the second month following the audit month, the "audit month paycheck account" is closed and any balance therein transferred back to the district general fund account. Thus, on March 31, the January account is closed. Any checks presented subsequently which bear January dating are handled as sight drafts.

5. The bank employs mechanical card sorters (650 cards per minute) to arrange the cancelled checks in check serial number sequence. The checks then are mechanically listed on journal sheets at the rate of 6,000 checks per hour, with the machines printing check number and amount and securing various totals to assist in its internal balancing procedure. The accounting machine automatically compares the check serial numbers while making this listing and prints an "M" denoting each instance of duplicate checks (account of garnishments) and broken series, as illustrated. The grand total of number of checks charged to the account and amount are computed and printed in this operation. The cancelled checks, the listing prepared on the accounting machine and a copy of the bank account statement are forwarded directly to the auditor of disbursements' office.

6. The auditor of disbursements' office employs a short-cut procedure of reconcilement. A manual summary is prepared of the payroll checks issued and *not included* on the bank's listing of returned and cancelled checks. The "M" appearing on the bank's mechanically prepared listing for duplicate or broken series of check numbers is the clue. A reconciliation is effected when the total of this manual summary equals the bank balance transferred from the "audit month paycheck account" to the general fund account at end of the second month following the payroll month.

The experience of several months has proved the procedure both simple and effective. Like all sound procedures, it saves time two ways: (1) by virtue of its being shorter; and (2) opportunity for time-consuming errors has been reduced to a minimum.

"ENGINE TROUBLE"

The locomotive firemen are as patriotic as any other group of Americans. They have been moved to this foolish and disruptive act [the November 8 strike call] out of frustration, because for three years they have had no wage increase and because their dispute has dragged on for months on end with no solution. . . .

The fact that the nation is faced with a new rail strike is further evidence of the breakdown of railway labor machinery. The President's only recourse was to appoint an emergency board to make recommendations. But the unions refused to accept the recommendations of a previous emergency board in the selfsame dispute. And after the sour experience with White House intervention last winter, the National Mediation Board has had a futile job in trying to get union and management together.

The new emergency board may find some way to conciliate unions and management—and certainly such a board ought to include some new faces. But basically this sort of remedy is stale. It is our reluctant conviction that in order to protect the public interest Congress will have to provide for some sort of compulsory arbitration in such disputes when both sides remain adamant.—*From the Washington Post*

Check Reconciliation Plan

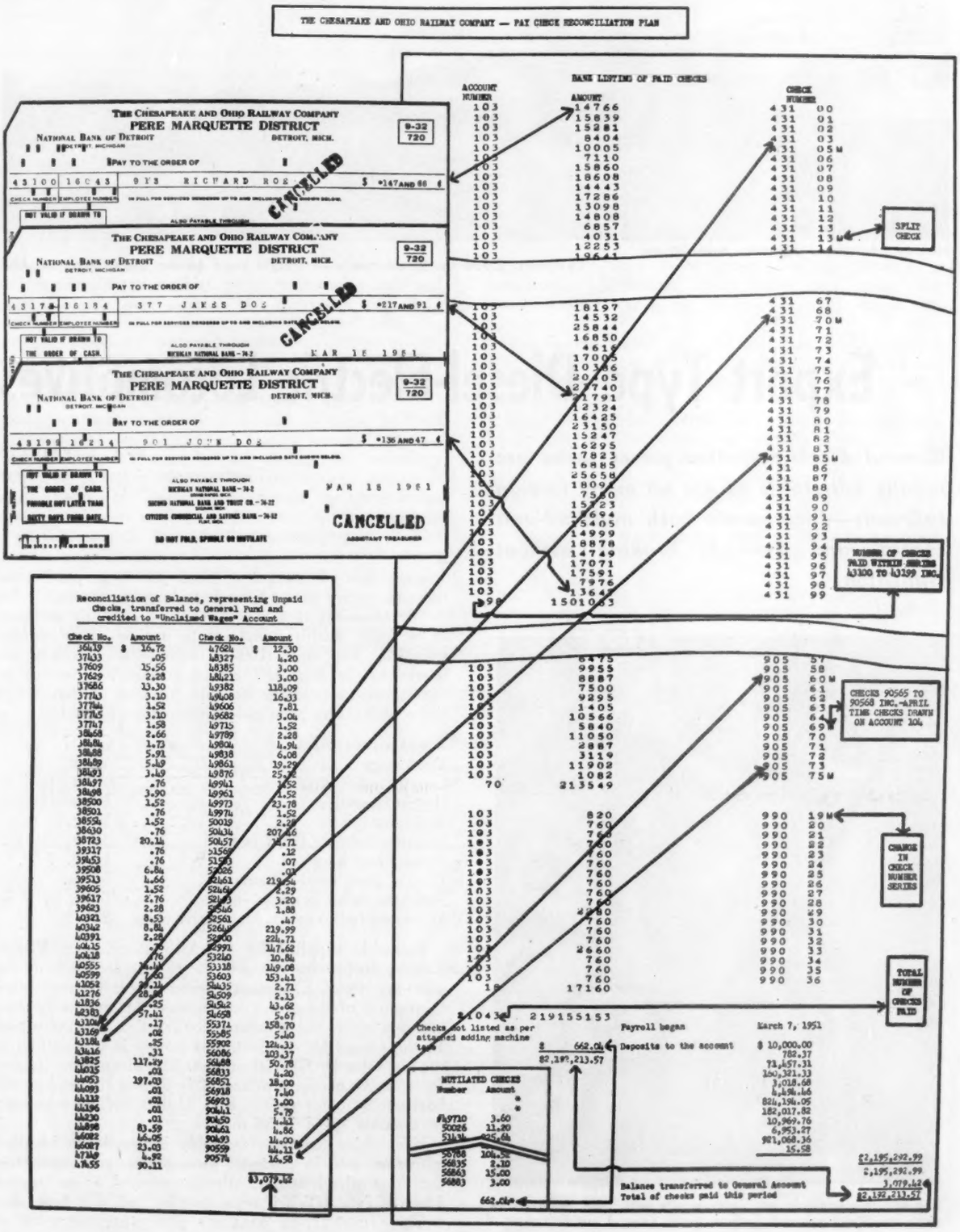




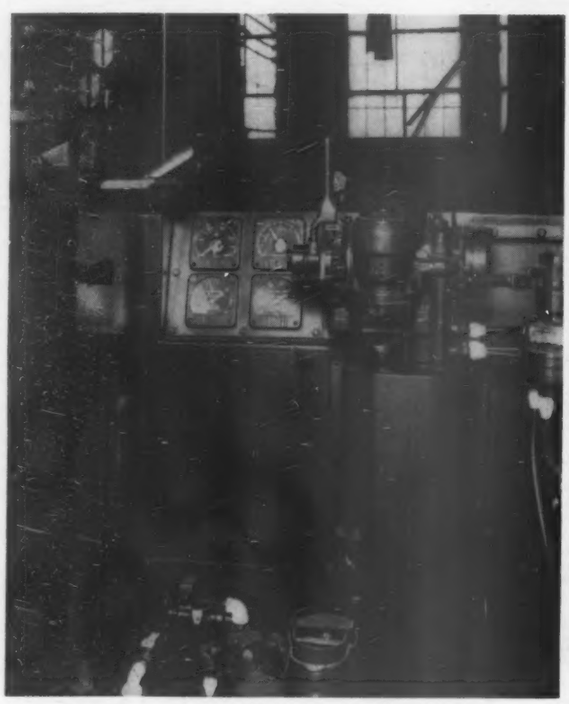
Photo by J. P. Maroldt, Leopoldville, Belgian Congo.

Twin-unit, 2,800-hp. locomotive with freight train on the Leopold-Matadi line

Export Type Diesel-Electric Locomotives

General Electric motive power units are readily adaptable to use on many foreign railroads—Incorporate both multiple-unit control and dynamic braking without transition

By E. L. PEEBLES
Locomotive and Car Equipment Department
General Electric Company



Engineman's controls and instruments with seat removed to show combined air and vacuum brake control valve

The manifest advantages of diesel-electric propulsion for railroad motive power have been largely responsible for the development of a new locomotive specially designed to be quite readily adaptable to use on many foreign railroads. The eight 100-ton locomotives recently delivered to the Belgian Congo for main line service on the Matadi-Leopoldville line are the first of this design to be built. The principal specifications follow:

Wheel arrangement	C - C
Track gage	42 in.
Length inside knuckles	49 ft. 11½ in.
Height overall	12 ft. 11½ in.
Width overall	10 ft. 1 in.
Distance between truck centers	25 ft. 2½ in.
Truck wheel base	10 ft. 7 in.
Wheels, steel tired—diameter	36 in.
Journals, roller bearing—size	5 in. by 9 in.
Minimum radius curve, locomotive alone	230 ft.

Power is supplied by the Alco 12-cylinder, V-type, 4-cycle, turbo-supercharged diesel engine used in the 1600-hp. Alco-G.E. domestic locomotives. To meet other limitations of the export locomotive, this engine is rated at 1,400 hp. to the generator for traction at 1,000 r.p.m. In the Congo locomotives, this power is transmitted to the six axles by GE-756 motors. The locomotive tractive force at 30 per cent adhesion is 55,500 lb., and at the continuous motor rating, it is 31,000 lb. The maximum permissible speed is 56 m.p.h.

The engine-generator assembly is practically identical with that used in domestic locomotives, and consists of the Alco diesel engine, direct-connected to a General Electric Type GT-564, separately excited, d.c. generator. Three gear-driven auxiliary generators are mounted

on the end of the main generator. One of these is the amplidyne exciter for the traction generator field. The other two are identical machines. One operates, with a variable field, at a regulated voltage to supply battery charging and control power for the locomotive. The other operates at a fixed field to supply power for the traction motor blowers and the radiator fan motor.

The control equipment for this locomotive is essentially identical with that used on Alco-G.E. road locomotives. The master controller at the engineman's position selects the motor connections and the engine speed while contactors, relays and switches in the control compartment and engine control panel make the actual circuit changes. Because of different motor characteristics, these locomotives have smaller power contactors and switches and the motors are permanently connected two in series, three pairs in parallel. Three steps of field shunting are employed instead of the conventional transfer from a series-parallel to a parallel connection.

The engine is controlled by the General Electric electrohydraulic governor which provides isochronous speed control, engine load control and maximum fuel limit control. The locomotives are also equipped with the standard Alco-G.E. 400-cycle excitation control system which supplies a generator field current limit, a traction generator armature current limit and, in conjunction with the governor, a horsepower control system.

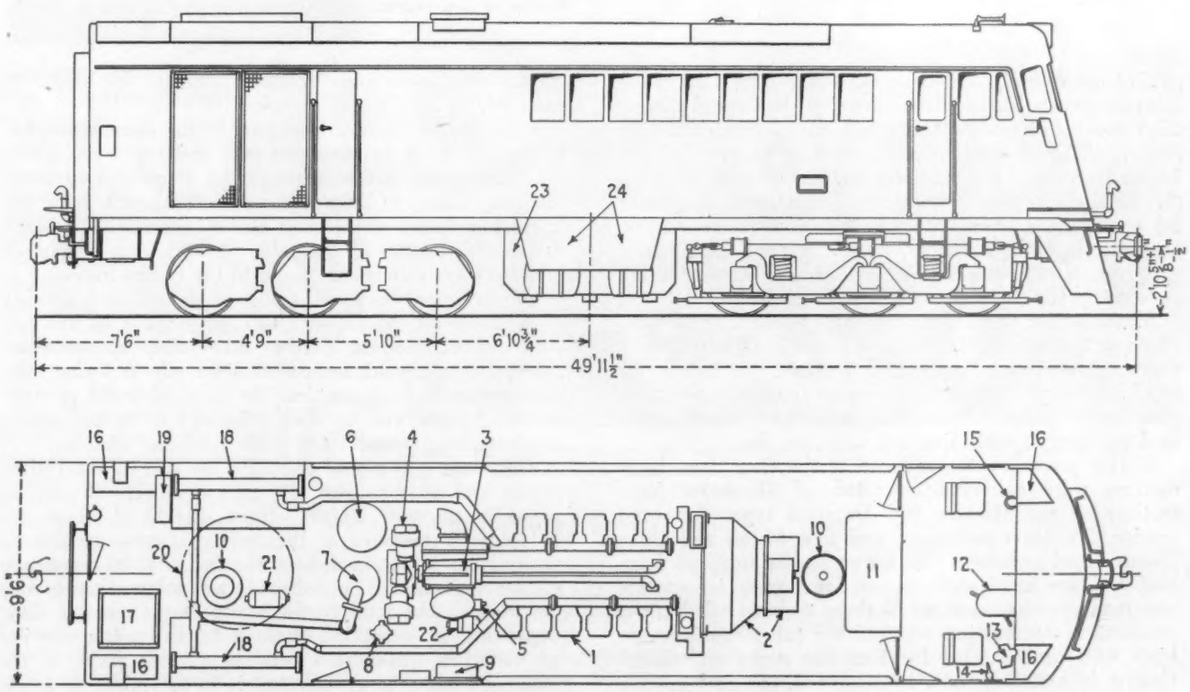
Both multiple unit operation and dynamic braking were provided on the Belgian Congo locomotives. Dynamic braking is provided by adding the necessary control parts and a dynamic braking resistor for dissipating the power. The traction motors are reconnected by a large power switch in such a way that they operate as generators with their fields separately excited. The output of their armatures is dissipated in the braking resistor. The traction motor blowers can be reconnected to permit loading of the traction motors up to a peak dynamic braking force of 27,000 lb. at 18 m.p.h. Excitation for the motor fields is supplied by the propulsion generator which is capable of supplying the regulated low-voltage, high-current excitation required by the series traction motor fields. The braking is then controlled by supplying a bias voltage from a potentiometer at the master controller to the 400-cycle excitation control system.

Service brakes are combined vacuum for the train and straight air for the locomotive and are arranged for multiple-unit operation. The locomotive brakes are operated by compressed air either independent of, or in conjunction with, the train brakes. A Gardner-Denver expressor, driven from the diesel engine crankshaft, furnishes vacuum and compressed air for operation of the braking system. The machine has three cylinders, two of which are used as exhausters and the third as a compressor. Additional train brake capacity on the Congo locomotives is furnished by a motor-driven exhauster.

The locomotive is equipped with one brake cylinder per wheel arranged to give a braking power of 60 per cent of the wheel load at 50 lb. per sq. in. brake cylinder pressure.

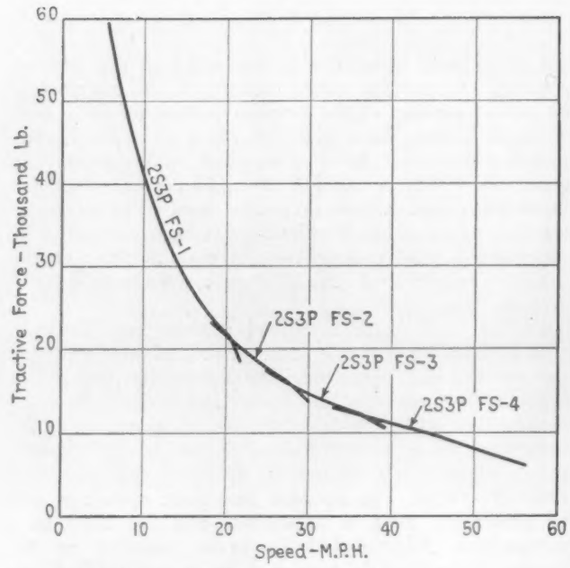
Eight of these locomotives have recently been shipped to the Belgian Congo after undergoing a series of exhaustive tests on all phases of operation at the Erie Works of the General Electric Company. They are now in service on the 233-mile line between Matadi and Leopoldville.

The railroad starts at sea level at Matadi, the chief

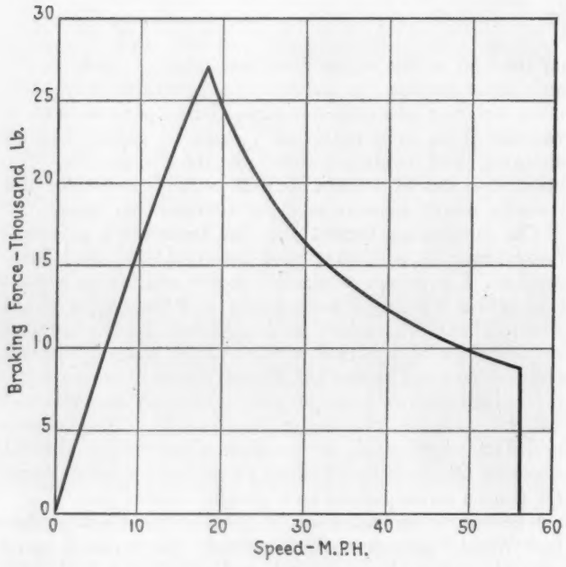


Location of principal apparatus on one of the locomotive units

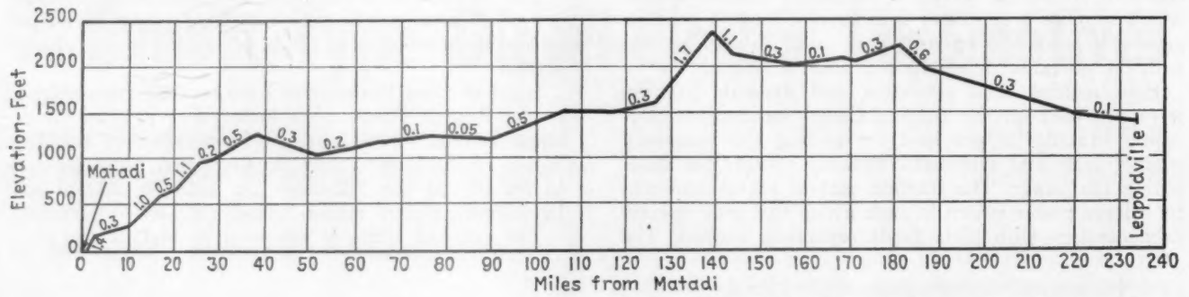
1. Diesel engine
2. Main generator and auxiliary generator
3. Turbo-supercharger
4. Expressor (air compressor and exhauster)
5. Governor
6. Lubricating oil filter
7. Lubricating oil cooler
8. Lubricating oil strainer
9. Engine control panel
10. Traction motor blower
11. Control compartment
12. Controller
13. Automatic vacuum or air brake valve
14. Independent brake valve
15. Hand brake
16. Sand boxes
17. Dynamic braking resistor
18. Radiators
19. Radiator fan control
20. Radiator fan
21. Motor alternator set
22. Pump set—governor and fuel oil
23. Fuel tank
24. Battery



Locomotive characteristic curve



Locomotive characteristic in dynamic braking



Profile of the Matadi-Leopoldville line in the Belgian Congo

port of the colony, located on the Congo river, 90 miles from its mouth. Thence, it climbs over the Crystal mountains and then descends to the capital, Leopoldville. The road is all single track with 36 sidings at approximately 7-mile intervals. Each of these sections is controlled by the Webb-Thompson system of train control. Dispatching is done by telephone to assure continuous movement of trains in both directions along the road. The ruling grade in the 233-mile run is one 13-mile stretch of 1.7 per cent grade against traffic moving inland.

All trains are handled by native enginemen and crews. The average running speed for the trip is 18 m.p.h., and the maximum speed permitted on the railroad is 45 m.p.h. Average train weight is approximately 600 tons plus the locomotive. Usually eight such trains are operated per day in each direction over the line.

Motive power on the railroad at the time these locomotives were delivered consisted of 31 steam locomotives of the Mikado and Decapod types for road service, 34 steam switchers, and five 44-ton and three 25-ton diesel switchers. All the steam locomotives burn coal and are fitted with copper fire boxes. An attempt was made to convert some of them to burn oil, but the products of combustion attacked the tubes causing very high maintenance. Fuel for both the steam and diesel-electric locomotives must be imported, the coal coming from England, Belgium and South Africa, and the fuel oil from all parts of the world.

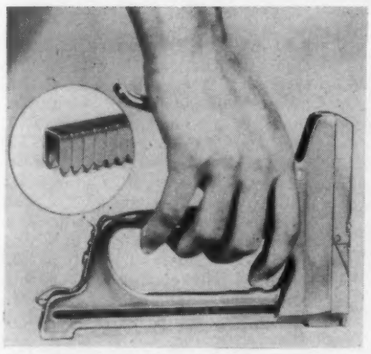
The rolling stock of the railroad consists of some 2,400 assorted cars, all of which have two 2-axle swivel trucks. The newer units of this equipment are of 44-ton capacity.

The railroad plays a vital part in the commercial life of the colony. It bypasses the falls and rapids by which the Congo river breaks through the mountains to reach the sea. Thus, it links the port of Matadi with the navigable section of the river above Leopoldville, whence thousands of miles of navigable streams form a network of waterways throughout much of the Congo basin.

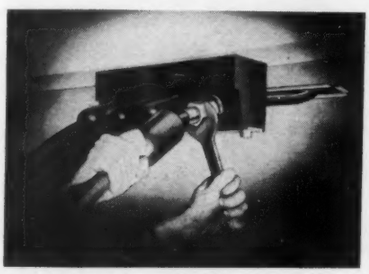
The principal outbound traffic of the railroad consists of products for export, such as copper, palm oil and tin, with rubber, cotton, hardwoods, coffee, cocoa, manganese, cobalt, gold, industrial diamonds and zinc concentrates in lesser quantities. The inbound traffic is made up of imports, and consists primarily of manufactured products, steel, cement and some food and clothing.

The country is nearly one-third the size of the United States and is inhabited by approximately 14 million negroes and some 60,000 whites, 40,000 of whom are Belgians. A measure of the industrial advancement of the country is obtained from the fact that 20 years ago the local traffic for the railroads was approximately one per cent of the total traffic, while at the present time, approximately one-third of the total rail traffic consists of materials transported between various parts of the country itself. The government is in the midst of a ten-year development program. Purchase of new locomotives is intended to expand transportation facilities, and all indications are they will materially increase the capacity of this strategic rail line.

New and Improved Products of the Manufacturers



A one-hand stapler, said to be capable of fastening metal or fiber shipping tags to export boxes, was announced recently by the Heller Company, Cleveland 14, Ohio. Heavy-duty staples, reportedly five-times "normal" size are used in the gun, which as backed, it is said, by a ten-year guarantee



Change-Out Terminal Block For Traction Motors

A device for reducing the time required for change-out of traction motors on diesel units is now being offered by the Paxton-Mitchell Company, Omaha, Neb. It consists of a terminal block fitted with Williams grip connectors, and the manufacturer claims that taping and untaping cables and the maintenance of glad hands at every changeout is no longer necessary. Only a ¼ turn of the buttress thread nuts is required to tighten cable connections.

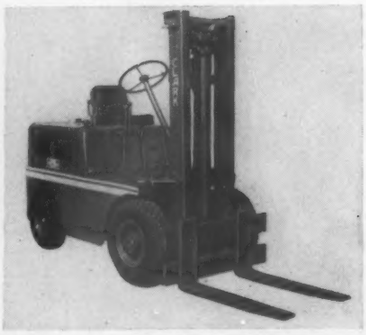
The terminal block is made of neoprene to assure proper insulation of terminal connections in all kinds of weather. The terminal connections are made of a special alloy copper to assure the highest conductivity of electrical current. The connectors are designed to assure equal contact pressure over the entire mating surface of each connector and also provide for a tensile pull of 1,500 lb. Connectors which become damaged may be renewed without replacing the complete block. Tests and service applications have shown that the connectors will perform satisfactorily in snow and ice and under other adverse weather conditions.

New Weed Destroyer

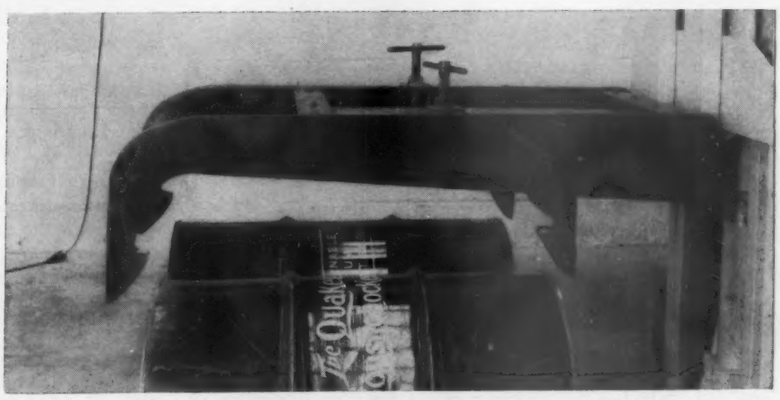
A new non-selective chemical weed killer, known as CMU, which is reported to "erase" dense growths of mixed grasses and broad-leaf weeds, leaving only an expanse of bare soil, has been announced by E. I. du Pont de Nemours & Co., Wilmington, Del. After application the chemical becomes absorbed in the root systems of the plants, then moves upward into the foliage. First the leaf tips begin to die, next general discoloration of the foliage occurs, then plant growth slows to a stop, and finally the plant dies. The first effects are usually noticed from 3 to 10 days after application, depending on the species treated.

The chemical is relatively non-volatile, and can be applied as a spray. According to the manufacturer, it is not flammable or corrosive, and is non-toxic as far as warm-blooded animals are concerned.

During the past year du Pont has conducted extensive tests of the material under a wide range of field conditions. More than 150 other investigators have evaluated the compound in every state, as well as in Canada, Hawaii, Alaska, Puerto Rico, Honduras, and Colombia. Now under way are still other tests to determine the duration of soil sterility produced by CMU in various types of soil. So far, the chemical has been produced only in small quantities for test purposes. During 1952, however, a limited amount of it will be available for commercial use.



This Yardlift-40, manufactured by the Industrial Truck Division of Clark Equipment Company, Battle Creek, Mich., is a 4,000-lb. capacity machine powered by a Model DIX-4D Hercules diesel engine. Brake horsepower is 44 at 1,950 r.p.m. Specifications such as turning radius, etc., are the same as for the gas-powered model



From this position drums are lowered to engage clamps under lips of drums. The springs never carry any load

Drum-Handling Device

A horizontal drum-handling device that can be attached to any industrial fork truck without removing the forks or making any hydraulic or mechanical connections is now available from the Philadelphia Division, Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

This unit fits over the forks and is fixed to them with two screw-type clamps. One or two standard drums can be picked up with the drum handler by lowering it over them as the truck slowly backs away, the manufacturer explains. During this process, the rear clamps, which are spring loaded, snap under the lip of the drum. In depositing the drums, after they have been grounded, the truck is moved forward, stretching the springs on the rear clamps; as soon as the forward clamps are free, the truck mast is tilted back. Truck then is backed away to free the rear clamps.



All pictures by William Wasile, Greenbrier staff photographer

A.R.M.E.A. officers for 1952 include (seated, left to right) Clifford A. Somerville, B. & M., second vice-president; Alfred E. Greco, Pullman Company, 1951 president and member of 1952 executive committee; Virginia Tanner, B. & O., president; and Hugh Lee Fitts, M.P., first vice-president; (standing, in the same order) Harry F. Tate, Jr., M.-K.-T., treasurer; William B. Grumley, Nickel Plate, executive committee member, and T. J. Zirbes, Jr., C.R.I. & P., secretary. Other executive committee members—J. Lloyd Burrell, of the C. of Ga., and L. C. Sherwood, W. P.—were elected in absentia

A Railway Age Convention Report

Editors Stress Cooperation

Management-labor understanding emphasized at Greenbrier meeting, in which labor editors participate for first time

Cooperation, among railway magazine editors and with their opposite numbers among the editors of railway labor publications, to help solve problems of mutual interest to railroads and railroad employees, was the theme dominating the record-breaking 29th annual convention of the American Railway Magazine Editors' Association, held at the Greenbrier, White Sulphur Springs, W. Va., November 1, 2 and 3.

"Important Avenue of Approach"

The problems themselves were outlined by R. M. VanSant, director of public relations of the Baltimore & Ohio. The theme of cooperation was stressed in his banquet talk by Alfred E. Greco, president of the association, manager of public relations of the Pullman Company and editor of Pullman News. And the possibility of obtaining such cooperation was underlined and emphasized on the convention's second day in addresses by editors of three railroad brotherhood publications—John R. Garber, editor of the Train Dispatcher; Ray Scott, editor and manager of the Brotherhood of Locomotive Firemen & Enginemen's Magazine; and E. J. Plondke, associate editor and director of public relations for the Brotherhood of Maintenance of Way Employees.

Mr. VanSant, in his keynote address at the opening session, pointed out that the railroads have two major problems—"how to get a living wage from the Interstate Commerce Commission, and how to meet competition. If," he continued, "they can't get support from their own employees on the several things in which we are both interested and which will help us both prosper, where can the railroads turn for support?"

Employee magazines, Mr. VanSant said, are "an important avenue of approach" in obtaining the "militant support" of the great majority of all railroad employees; and in stressing to all employees "from president to office boy," that "public relations is everybody's job," and that "it is the way in which work is done, even more than in what is said, that will determine whether the industry will live, or wither and die."

"Molders of Opinion"

The latter thought was expressed also by President Greco, in his remarks at the annual banquet, when he said: "We are molders of opinion. We must live and breathe in the rarefied atmosphere of harmonious cooperation between the two great forces of our country and our world—management and employee.

"We have the tools with which to do the job. We can translate into words on a printed page our deep and sincere beliefs in the very real integrity of all mankind by believing that there is available a solution to every



The annual "workshop" session—a fast-moving forum for exchange of ideas and experiences—occupied most of the convention's final day. Speaking as this picture was taken was George P. McCallum, of the Maine Central, flanked on his right by A. E. Greco, president of A.R.M.E.A., and, on his left by T. J. Zirbes, moderator and secretary-elect

seeming problem which may arise between these two great forces of labor and management. We can help to bring to the surface a desire on the part of all to arrive at a common denominator of cooperative understanding."

The possibility of obtaining such a "cooperative understanding" was highlighted by the addresses from the three labor editors, in what was said to have been the first participation by labor representatives in any railroad industry convention. "We have high hopes that this modest beginning will lead to further cooperation," J. A. Ross, associate editor of the Erie Magazine and chairman of the program committee, said in introducing them.

Mr. Garber, telling what the dispatchers' magazine has done to "boost the railroads," declared that "railroad employees must appreciate the importance of the railroad industry as a whole. . . . They must boost their industry as opposed to any other form of transportation. One way to do that is to eliminate derogatory remarks or jokes about railroads, railroad service, other railroads, or any class of railroad worker."

Mr. Plondke, whose subject was "Safety," said the railroads "have proved the effectiveness of an endless campaign to keep safety foremost in the minds of all workers. But neither employees nor management are free to relax in the endless war against their greatest enemy."



One of the highlights of the convention was addresses by editors of three railroad brotherhood publications, who participated for the first time in an A.R.M.E.A. meeting. At the left is E. J. Plondke, of the Brotherhood of Maintenance of Way Employees; in the center, Ray Scott, of the Brotherhood of Locomotive Firemen & Enginemen; and at the right, John R. Garber, of the American Train Dispatchers Association

"Give Readers Ammunition"

Speaking on "Trucks," Mr. Scott told the railroad editors, "We must give our readers the ammunition which will enable them to help . . . in the large and demanding program in which we are cooperatively engaged. There are differences between us, but there are also areas of understanding. I am sure there will be a time



Attendance at the 29th annual convention was the largest ever recorded for a meeting of railway magazine editors. Association membership was also reported to be at a new all-time high



"America's No. 1 need is the uncommon man," Grove Patterson, editor-in-chief of the Toledo Blade, told his fellow editors in his banquet address. To Mr. Patterson's right is Virginia Tanner, of the B. & O., president-elect of the association; to his left, in order, are A. E. Greco, of the Pullman Company, present president; Mrs. Patterson; and Ted O'Meara, of the C. & O., who handled arrangements for the convention

when we will all have a better understanding of those problems which confront us all together."

The convention's third day was devoted to the A.R.M.E.A.'s annual "workshop" session, at which "every phase of employee publication work" is discussed by association members in brief talks designed to give general circulation among all railroad employee magazines to those ideas, methods and experiences most likely to be of general value. Moderator for this year's session was T. J. Zirbes, Jr., editor of the Chicago, Rock Island & Pacific News Digest. Speakers included James E. Metzler, editor, Union Railroad Headlight, and trainmaster; W. P. Kime, Jr., assistant editor, Norfolk & Western Magazine; M. L. Shepherd, editor, Santa Fe Magazine; Mrs. Inez M. Deville, field editor, Baltimore & Ohio Magazine; J. W. Lydon, editor, the Soo-Liner, and advertising manager of the Soo Line; M. M. Pomphrey, editor, St. Louis-San Francisco All Aboard; E. G. Fitzpatrick, editor, Southern Pacific Bulletin; David R. George, editor, Long Island Railroader; George P. McCallum, editor, Maine Central Magazine; George McCann, assistant editor, Chesapeake & Ohio Tracks; Thomas G. Lynch, editor, Piedmont & Northern-Durham & Southern Semaphore; Robert H. Klank, business manager, Chicago & North Western Newsliner; Wilfred I. Hall, associate editor, Belfast & Moosehead Lake Waycar, and auditor; Harry F. Tate, Jr., advertising agent, Missouri-Kansas-Texas; Edgar Hartney, editor, Litchfield & Madison News; and Charles F. Burrows, assistant editor, Illinois Central Magazine. Papers were also scheduled by C. W. Higgins, managing editor, Canadian National Magazine; L. C. Sherwood, editor, Western Pacific Mileposts; and E. C. Stockwell, editor, Canadian Pacific Spanner, all of whom were unavoidably absent from the convention.

The banquet address was delivered by Grove Patterson, editor-in-chief of the Toledo Blade, while other speakers at various sessions of the convention included Thomas J. Deegan, Jr., vice-president of the C. & O.; Bill Ripley, of Bill Ripley & Associates, of Cleveland; Phil Stitt, director of the Media Services division of the National Production Authority; William H. Bartley, deputy director of payroll savings of the U. S. Treasury Department; and Truman Wright and Dr. James Baker, manager and resident physician, respectively, of the Greenbrier.

Officers elected by the association for 1952 were: President, Virginia Tanner, editor, Baltimore & Ohio Magazine; first vice-president, Hugh Lee Fitts, staff editor, Missouri Pacific Magazine; second vice-president, Clifford A. Somerville, editor-in-chief, Boston & Maine Magazine; secretary, T. J. Zirbes, Rock Island; treasurer, Harry F. Tate, Jr., M.-K.-T. (reelected); and executive committee, William B. Grumley, editor, Nickel Plate Road Magazine, J. Lloyd Burrell, editor, Central of Georgia Magazine, L. C. Sherwood, Western Pacific, and the retiring president, Mr. Greco.

Convention arrangements were in charge of Ted O'Meara, editor of Tracks, assisted by Mr. Grumley. Total registration was 110, representing 41 publications. Both registration and A.R.M.E.A. membership reached new high levels during the meeting.

GENERAL NEWS

September Accidents

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of "steam railway" accidents for September and this year's first nine months. The compilation, subject to revision, follows:

	Month of September		9 months ended with September	
	1951	1950	1951	1950
Number of train accidents*	834	892	8,093	7,257
Number of accidents resulting in casualties	30	51	394	359
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	119	142	899	926
Injured	90	118	778	889
Passengers on trains:				
(a) In train accidents*				
Killed	1	33	100	73
Injured	46	107	1,159	982
(b) In train-service accidents				
Killed	2	4	13	21
Injured	178	160	1,357	1,466
Travelers not on trains:				
Killed	1	1	5	5
Injured	47	55	525	541
Employees on duty:				
Killed	22	42	272	251
Injured	1,788	1,883	17,173	15,204
All other nontrespassers**				
Killed	136	121	1,171	1,132
Injured	463	520	4,251	4,226
Total—All classes of persons:				
Killed	281	343	2,460	2,408
Injured	2,612	2,843	25,243	23,308

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $275 or more to railway property in 1950. Beginning January 1, 1951, this minimum was raised to $300. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	123	114	1,051	1,046
Injured	2,612	2,843	25,243	23,308

Kearney to Head Canadian Transport

J. D. Kearney, Canadian ambassador to Argentina, has been appointed to succeed Maynard Archibald as chairman of Canada's Board of Transport Commissioners. Appointment of Mr. Kearney, an attorney of Montreal, was announced in the House of Commons at Ottawa by Transport Minister Lionel Chevrier.

Railroad Fined

The Interstate Commerce Commission has received information from U. S. Attorney Robertson of St. Louis, Mo., to the effect that on November 9, 1951, in the U. S. District Court for the Eastern District of Missouri, judgment was entered in favor of the government and against the carrier in the sum of $2,700 and costs in the case of *United States of America v. Wabash Railroad Company.*

I.C.C. Secretary W. P. Bartel made public this information in a November 14 memorandum for the press. The memorandum said the St. Louis proceeding was a civil penalty "for failure to comply with the provisions of Revised Service Order No. 866, issued by the commission and prescribing railroad operating regulations for freight car movement in the existing emergency."

Staley Joins Speaker Group For Transport Conference

J. R. Staley, vice-president of the Quaker Oats Company, will be a speaker at the Midwest Transportation Conference which will be held December 12 and 13 at Cleveland, Ohio, under the auspices of the Chamber of Commerce of the United States. As reported in *Railway Age* of November 12, page 18, other speakers at the conference will include Interstate Commerce Commissioner Hugh W. Cross and Senator John W. Bricker, Republican of Ohio.

I.C.C. Report on Accident Near Lettsworth, La.

Reporting on its investigation of the head-end collision between two Louisianna & Arkansas passenger trains near Lettsworth, La., on August 10, the Interstate Commerce Commission has recommended that the road "immediately take the necessary steps to enforce compliance with its operating rules" and "discontinue the practice of arranging unauthorized train movements by the use of the train communication system."

The recommendation was based on evidence indicating that a trainmaster, riding one of the trains, had been using radio in a rules-breaking undertaking to expedite movement of that train over the single-track line involved.

The commission's report, No. 3419, was by Commissioner Patterson, and the investigation out of which it came was conducted by the Bureau of Safety. Its formal finding was that the accident "was caused by a train occupying the main track on the time of an opposing superior train without protection."

The offending train, on which the trainmaster was riding the locomotive, was a troop train (Extra 51-A North), while the opposing train was No. 1, the streamlined "Southern Belle." The report's discussion of the accident seemed to embody an implicit commission warning to the effect that, if radio is to be used for dispatching, such use must not be on a play-by-ear basis—it must be bottomed on formal arrangements and rules, with safeguards like those of dispatching systems which use telephone and telegraph communications.

The trainmaster was killed in the accident. It also resulted in the death of six passengers and six train-service employees, including the engineers and firemen of both trains, and the conductor and front brakeman of the troop train. The passenger fatalities included three marines who were on the troop train and three travelers on the "Southern Belle." Those injured in the accident included 69 passengers and 13 employees.

The point of collision, 1.67 mi. north of Lettsworth, was on a line owned by the Texas & Pacific but used by L. & A. trains. The latter remain under the jurisdiction of L. & A. dispatchers, but are governed by T. & P. operating rules when on the lines of that carrier. There is no block system on the line, so trains running over it are operated by timetable and train orders. However, the L. & A. has in service, between New Orleans, La., and Alexandria, a train-communication system of the inductive type which embraces the T. & P. line involved.

L. & A. rules prohibit the use of this radio "in any manner that would have the effect of supplanting or modifying strict compliance with operating rules and special instructions"; or to transmit train orders to a train or engine—"except in extreme emergencies," when "every precaution must be taken to prevent any misunderstanding." Moreover, operators are prohibited from advising approaching trains by radio as to the position of their train-order signals or informing them as to the contents of train orders, and train crews are prohibited from requesting such information.

The troop train consisted of a two-unit diesel-electric locomotive and 16 cars—all of all-steel construction except the first, which was an express-refrigerator car of steel-underframe construction. No. 1, south-bound from Kansas City to New Orleans, consisted of a two-unit diesel and six cars, of which the first (a baggage-mail-dormitory car) was of lightweight steel construction, while the others had high-tensile steel underframes and aluminum superstructures.

No. 1's estimated speed was 55 m.p.h. at the time of the collision, when the troop train was traveling at an estimated speed of 40 m.p.h. The accident occurred about 7:02 a.m. when the weather was clear. The point of collision, however, was on a 1 deg. 30 min. curve; and the commission said that the range of vision between opposing trains in the vicinity was "materially restricted," because of vegetation along the track.

Locomotives of both trains, the first five cars of the troop train, and the first four cars of No. 1 were derailed. A fire resulting from the collision destroyed the second diesel unit and the first three cars of the troop train, and No. 1's first diesel unit and first two cars.

There was no train order affecting the movement of either train with res-



ROYAL ENGINEERS.—While Prince Philip looks on (extreme right), Princess Elizabeth listens attentively to last minute instructions from Canadian National Engineman A. McPhail. A few moments later she took over the right-hand side of C.N. Locomotive 6057 for the 14-mile run from Yates, Alta., to Peers. Prince Philip took over the duties of fireman for the trip—a high spot in the royal couple's tour of western Canada last month

pect to the other. Under the applicable operating rule, the troop train was required to clear the schedule time of No. 1 not less than 10 min. or provide flag protection for itself.

No. 1 was on time, 6:48 a.m., when it passed Simmesport, La., the last open office, which is located 10.03 mi. north of the point of collision. The commission's investigators calculated that the rule mentioned above would have required the troop train to go into a siding at Batchelor, 8.57 mi. south of the point of derailment. Also applicable were rules to prevent failure at meeting points, which made all members of a crew (not only the engineer) "responsible for failure to take immediate action to stop the train."

In the latter connection, the flagman, the only surviving member of the troop train's crew told commission investigators that he was aware the train could not proceed beyond Batchelor and clear the schedule of No. 1.

"However," the report continued, "because the trainmaster . . . . had access to the train communication equipment, [the flagman] assumed that arrangements had been made to advance the train beyond Batchelor to meet No. 1." The flagman also reported that his conductor had told him early on the trip that the train "would proceed as far as possible to meet No. 1."

The commission's investigation disclosed that, prior to the time of the accident, the trainmaster on the troop train had used the radio to advance that train against the schedule of an opposing passenger train, No. 9,—"without train order authority," as the report put it. The testimony was conflicting, and the evidence generally inconclusive, on the matter of whether employees on the troop train and those on No. 1 had engaged in any conversation by radio relative to the movement of their trains.

Such testimony included that of the engineer of a northbound freight train which had met No. 1 at Bijou, 27.6 mi. north of Simmesport. He said that about 6:40 a.m. he heard "a person who identified himself as being at Simmesport" call the troop train "several times," but he heard no response to the call. The report's further summary of this freight engineer's testimony put it this way:

"After an interval of several minutes he heard a person speaking and apparently agreeing with a request or instructions which had been received, but he did not hear the other person in the conversation. About 6:55 a.m. he heard someone call [the troop train] several times but he heard no response to the call. The manner in which this person spoke indicated that he was somewhat excited. The engineer said that the person who was speaking on the second and third occasions did not identify himself, but that his voice was similar to that of the person who called [the troop train] from Simmesport."

The fireman and front brakeman of the freight train also said they heard Simmesport call the troop train, but "they did not notice the time at which they heard the call and they did not hear any other conversation."

Meanwhile, the operator at Simmesport said that he did not communicate with the crew of either the troop train or No. 1, and that he did not hear the crew of either of those trains communicate with anyone. He did say, however, that he called the troop train "several times" to locate it "for the information of maintenance-of-way employees"; but "at no time did he receive a response." This testimony was corroborated by statements of the Simmesport section foreman who was in the operator's office from about 6:35 a.m. until No. 1 passed at 6:48 a.m.

The operator at Alexandria, which is 46.2 mi. north of Simmesport, "thought" that the Simmesport operator called both the troop train and No. 1 at some time after the latter left Alexandria, but he "noticed nothing unusual in the manner in which the operator called the trains and he remembered no conversation which would indicate that the operator was in communication with either train." The operator at North Baton Rouge, which is 64 mi. south of Simmesport, said he did not hear any conversation on the train communication system between the time the troop train passed his station and the time the accident occurred.

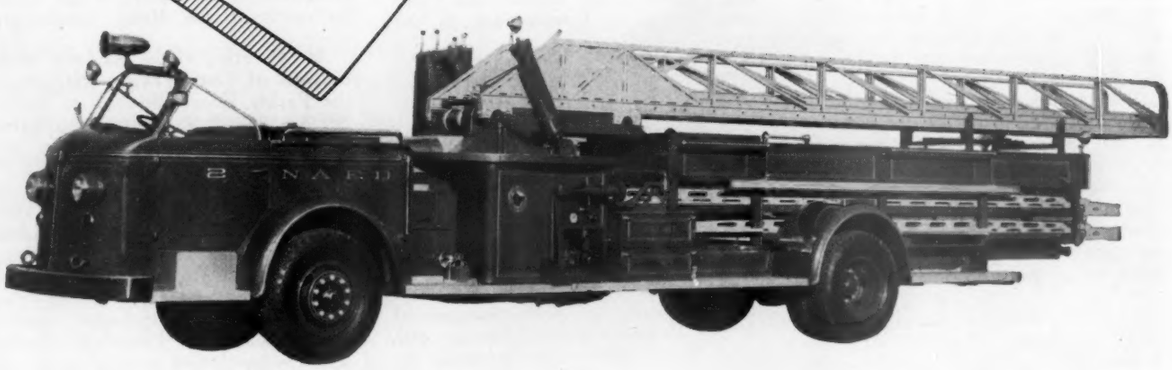
Leading up to its finding as to the cause of the accident and its recommendation, the commission emphasized how the radio had been used to advance the troop train on the time of No. 9, how the troop train's crew failed to obey the rule requiring it to take a siding for a meet with No. 1 at Batchelor, and how it was actually on the time of No. 1 when it passed Lettsworth.

"In none of the three instances," the report continued, "did any member of the crew take action to stop the train. The arrangements for the movement of the train in the first instance were made by the trainmaster instead of the conductor and without the knowledge of the train dispatcher. It could not be definitely determined that the movement of [the troop train] against the schedule of No. 1 was made upon information received on the train communication system. However, it was established . . . that the train communication system had been used on previous occasions in arranging for train movements without train order authority . . . . This investigation has established that compliance with the operating rules is not being obtained."

Supreme Court Actions

The Supreme Court last week let stand a lower court decision which held that directors of the Illinois Central do not have the power to pay dividends on non-cumulative preferred stock for a year in which the road earned such dividends but did not pay them. The case was titled *Guttman v. Illinois Central.*

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Petitioners in the case contended the lower court erred in finding the I.C. directors lacked power to make good on dividends that were passed in the 1942-47 period. They said the directors had such authority, and it was their duty to exercise it before resuming dividend payments on common stock as they did in 1950. The case was appealed on the question of the "power" of the I.C. directors.

In another proceeding the high court last week restored to its summary docket for reargument the case of *Georgia Railroad and Banking Company v. Redwine*. This is a tax case which was before the court earlier this year. It involves an effort by the railroad to enjoin collection of a state tax, and the high court formerly told the road to seek relief in the state courts. The case has now progressed back to the top court.

The Supreme Court also turned down requests for review of two Federal Employers' Liability Act cases in which the doctrine of *forum non conveniens* was involved. The question was whether a judge of the Circuit Court of the City of St. Louis could entertain a motion to dismiss F.E.L.A. cases on grounds of "inconvenient forum."

In both cases, the presiding judge said he had no jurisdiction to entertain such a motion. The Missouri Supreme Court upheld this view. In a November 6, 1950, decision the U. S. Supreme Court reversed the lower court. The cases were remanded for further proceedings, and the Missouri high court was advised to decide the principal of *forum non conveniens* according to the local law of Missouri.

The state court then affirmed its earlier finding, upholding the trial judge. The cases were thus appealed to the Supreme Court a second time, and review was denied. The latest action of the Missouri Supreme Court was interpreted as ruling "clearly and unequivocally" that it is the policy of Missouri courts to reject the doctrine of *forum non conveniens* in all cases.

The two cases at issue here involved the Southern and the Atchison, Topeka & Santa Fe.

Rio Grande Tries Bargain Fares

Fare reductions under a bargain round-trip plan which will reduce travel costs from 20 to 26 per cent were announced on October 29 by the Denver & Rio Grande Western. Under the plan, the lower rates will apply on tickets purchased for week-end departures and are valid for return any day within a 25-day limit.

In announcing the reduced fares, H. F. Eno, passenger traffic manager, said they will apply on all Rio Grande trains except the "California Zephyr," and on Santa Fe and Colorado & Southern trains between Pubelo, Colo., and Denver, as well as intermediate points. Both coach and first class fares are affected.

Waybill Studies

Additional waybill studies issued by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission, include Statement No. 5142, State-to-State Distribution of All Commodities Combined, Traffic and Revenue, based on a one per cent sample of terminations in 1950; Statement No. 5144, State-to-State Distribution of Traffic and Revenue in the Products of Mines Group — Terminations in the Year 1950; and Statement No. 5145, State-to-State Distribution of Traffic and Revenue in the Animals and Products Group — Terminations in the Year 1950.

ORGANIZATIONS

At the recent annual convention of the **Military Railway Service Veterans,** the following officers were elected to serve for the coming year: R. E. Godley, assistant manager of stores, Illinois Central, director general; R. H. Major, Pennsylvania, deputy director general; and Carl N. Rydin, president and treasurer, Rydin Railway Equipment Company, secretary-treasurer.

The **Midwest Shippers Advisory Board** will hold its next meeting at the Sheraton Hotel, Chicago, on January 30 and 31, 1952.

Roger E. Gay, president of the Bristol Brass Corporation, has been elected president of the **American Standards Association.**

"Some aspects of the history of railroads serving New York" will be the general theme of a meeting of the **Lexington Group** and the **American Historical Association,** with which the Lexington Group is affiliated, in the Hotel Statler, New York, at 10 a.m. on December 28. "The role of the Camden & Amboy in New Jersey politics" will be the subject of the first paper, by George A. Reilly, assistant professor of history, Seton Hall University. In honor of the centennial of the New York & Hudson River, William T. Gaynor, of the New York Central, will present the second paper entitled "Highlights of a Century." The final paper, by David M. Ellis, associate professor of history, Hamilton College, and titled "New York and the Western Trade, 1850-1905," will trace the changing comparative position of New York and other ports. The Lexington Group will observe its 10th anniversary at a dinner planned for April 16 in Chicago.

The 36th annual dinner of the **Traffic Club of Minneapolis** will be held on December 6, in the Hotel Nicollet, at 6:30 p.m. William Clay Ford, director, Ford Motor Company, and president of the Edison Institute, will be the speaker.

The **Metropolitan Maintenance of Way Club** will hold its annual luncheon meeting on December 6, in the Hotel Shelburne, 37th street and Lexington avenue, New York, at 12:30 p.m. J. B. Akers, chief engineer of the Southern, at Washington, D. C., will speak on "Materials and Methods in Maintenance of Way."

The **New York Railroad Club** will hold its 79th anniversary dinner on December 6, at 7 p.m., in the Grand Ballroom of the Hotel Commodore.

At a meeting of the **Eastern Association of Car Service Officers** in the Parker House, Boston, on November 8 and 9, F. I. Umhau, superintendent of car service, Southern, was elected president for one year. J. L. Barngrove, Jr., superintendent of freight transportation, New York, New Haven & Hartford, was named first vice-president, and O. J. Donaghy, general car accountant, Canadian Pacific, became second vice-president. H. C. Rochester, general car accountant, Canadian National, was re-elected secretary-treasurer. A. F. McSweeney, acting chief of freight transportation, Pennsylvania, the retiring president, automatically became a member of the group's executive committee, and W. C. Hawes, superintendent of transportation, Bessemer & Lake Erie, was elected to the same committee.

The **Traffic Club of New York** will hold a luncheon meeting in the ballroom of the Biltmore Hotel on December 4. Charles E. Wilson, director of the Office of Defense Mobilization, will be guest speaker.

EQUIPMENT AND SUPPLIES

LOCOMOTIVES

The **Chesapeake & Ohio** has ordered 149 diesel-electric locomotive units for delivery during the first half of 1952. Included are 27 three-unit 4,500-hp. freight locomotives, seven three-unit 4,500-hp. freight and passenger locomotives and ten 1,200-hp. switchers, all to be built by the Electro-Motive Division of General Motors Corporation; 26 1,600-hp. heavy-duty road-switchers to be constructed by the American Locomotive-General Electric Companies; and 11 1,600 hp. heavy-duty road-switching units ordered from the Baldwin-Lima-Hamilton Corporation.

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When you're tearing up rail on a hot traffic spot such as Moffat Tunnel, you want to be mighty sure that new steel goes down again *fast*. That's why Denver, Rio Grande and Western picked a 25-ton American Locomotive Crane to handle the job.

The new rail was 133-pound stock, replacing badly worn 130-pound. It was first welded into 1600-foot sections outside the tunnel, then carried in on flat cars and welded into a continuous strip. A special cradle, designed by DRG&W, hung at the end of the crane's boom and positioned the rail for fastening. The 12.6 mile job was finished in 25 hours, without a hitch.

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The board of directors of the **Chicago, Rock Island & Pacific** has authorized purchase of 27 800-hp. switching and 25 1,500-hp. road-switching diesel-electric locomotive units.

The **Reading** has ordered 40 diesel-electric locomotive units costing $6,720,000. Orders were placed as follows: American Locomotive-General Electric Companies — 20 1,600-hp. road-switching units; Baldwin-Lima-Hamilton Corporation—10 1,600-hp. road-switching units; and Electro-Motive Division of General Motors Corporation—8 1,500 hp. road-switching and two 1,500-hp. "A" passenger units.

SIGNALING

The **Union Pacific** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to install a traffic control system at Green River, Wyo. The style C control machine will be installed in the Green River passenger station. In addition to code equipment, the order includes styles H-2 high and dwarf searchlight signals, P-5 colorlight high signals, M-23A dual-control electric switch machines, relays, rectifiers, transformers, coded track circuit apparatus and housings. Field installation will be handled by railroad forces.

SUPPLY TRADE

C. Paul Corrigan has been appointed eastern sales manager and **Westley C. Muller** western sales manager for the Ramapo-Ajax division of the **American Brake Shoe Company.** Mr. Corrigan and Mr. Muller formerly were district sales managers at Cleveland and Denver, respectively.

B. A. Kiekhofer, formerly assistant to the president and assistant secretary of the **General American Transportation Corporation,** has been elected secretary, succeeding **Maurice J. Feldman,** resigned.

The **Baldwin - Lima - Hamilton Corporation** has transferred its Washington district office from 616 Tower building to 642 Wyatt building, 14th and New York avenue, N.W., Washington 5.

Frank E. Kyndberg has been appointed district sales manager, Waukegan district, of the **American Steel & Wire Co.'s** Cyclone Fence division. **Arthur C. Correll** succeeds Mr. Kyndberg at district sales manager of the southeastern district, with headquarters at Savannah, Ga. **A. B. Wyllie,** formerly in charge of Cyclone Fence division at Milwaukee, succeeds Mr. Correll in the sales organization of the division in Pittsburgh.



W. G. Turner, regional manager of the southeastern region of the Cummins Engine Company, with headquarters at Atlanta, Ga., has been transferred to Cleveland as regional manager, Great Lakes region

Mr. Kyndberg joined Cyclone Fence division at its Waukegan headquarters in 1920. He left the company for a time, but returned in 1925 as a salesman in Milwaukee. From 1928 to 1937 he served as salesman in the north shore area and from 1937 to 1949 in a similar position in Chicago. He was named district sales manager, southeastern district, in 1949.

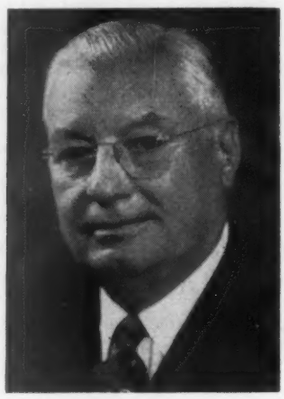
Thomas I. Conway has been promoted to supervisor of service of the **Journal Box Servicing Corporation** of Indianapolis, with headquarters in Chattanooga, Tenn. Mr. Conway has spent a number of years in various experimental and research capacities for the company, and has been plant foreman at a number of plants throughout the country. In 1935 he was appointed western supervisor, at Pocatello, Idaho, a position he held until 1939, when he was appointed service engineer on the Southern, with headquarters at Chattanooga.

W. T. Billard, Inc., 734 East Third street, Los Angeles 13, has been appointed representative in southern California and Arizona for the **Baker-Raulang Company,** to handle all sales, service and field engineering in that territory.

William M. Black has been appointed president, and **Joseph L. Mullin** vice-president, of the Electro-Alloys division, **American Brake Shoe Company. Walter G. Hoffman,** former president of the division, has been appointed assistant to the vice-president for research and development of American Brake Shoe.

Mr. Black is a vice-president of American Brake Shoe and also president of the American Manganese Steel division since 1940. He joined the company as an apprentice in 1912 and worked in both operating and sales departments.

Mr. Mullin, who joined the company in 1914, is vice-president in charge of operations for the Ameri-



William M. Black

can Manganese Steel division and will continue in that capacity.

Mr. Hoffman will be assigned to special metallurgical development projects at the company's research center in Mahwah, N. J. He joined the sales department of American Manganese steel division in 1930 and was appointed president of the Electro-Alloys division in 1943.

The **Pittsburgh Plate Glass Company** will enter the fiber glass production field in the near future and formation of a separate development and production unit — the



Joseph T. McNally, who has been appointed sales agent for the American Car & Foundry Co. in the New York district sales office. Mr. McNally formerly worked for the Shippers' Car Line Corporation and the American Welding Company, both A.C.F. subsidiaries. He has been assistant manager of tank car sales for the parent company since 1946 and in his new position will specialize in tank car and miscellaneous sales

Fiber Glass Division — is now in process, Richard B. Tucker, executive vice-president, has announced. **J. Hervey Sherts** will head the new division as general manager.

The **Stonhard Company,** with present headquarters at 1306 Spring Garden, Philadelphia, will erect a new one-story building at Broad and Huntington streets, to house the company's offices, warehousing and manufacturing facilities. The building which will contain 42,000 sq. ft., will cost $600,000.

The Philadelphia division of **Yale & Towne Manufacturing Company** has appointed the **Baker Equipment Engineering Company** as representatives for the Yale line of materials-handling machinery in the Charleston, W. Va., marketing area. Sales engineers of Baker will operate from offices in Charleston, Huntington, Bluefield and Clarksburg.

John S. Newton, vice-president of the **Baldwin-Lima-Hamilton Corporation,** Eddystone, Pa., has been assigned complete responsibility for the Locomotive division, including locomotives, renewal parts and other related equipment.

C. Burnell Abel has been appointed vice-president in charge of sales for the **Miller Electric Manufacturing Company,** Appleton, Wis. **R. A. Metcalf,** formerly assistant sales manager, succeeds Mr. Abel as sales manager.

The **Georgia-Pacific Plywood Company** has opened a new warehouse at Harborside Industrial Park, Providence, R. I. **Bernard V. Longerman** will be in charge, under supervision of district manager **Charles Levesque.** The company also has completed an extensive warehouse improvement and expansion program at Port Newark, N. J., including a new office building on Marsh street, to house eastern division offices and Port Newark warehouse offices.

OBITUARY

William T. Bissell, vice-president and general manager of the Journal Box Servicing Corporation at Indianapolis, died there October 8, as *Railway Age* reported November 5, at the completion of almost 50 years of service in railroad circles. He started his railroad career in 1902 as oil house man for the St. Louis-San Francisco at Springfield, Mo., and was steadily promoted until he held the position of traveling storekeeper. In 1913 he went to the Chicago & Eastern Illinois at Danville, Ill., as general storekeeper. He started with the Journal Box Servicing Corporation in 1928 as service engineer, and after several years of service was promoted to general manager and later to vice-president and general manager.

L. L. King, Denver sales representative of the Okonite Company, died on November 2. He had been with Okonite since 1930.

ABANDONMENTS

Division 4 of the I.C.C. has **authorized:**

DENVER & RIO GRANDE WESTERN.—To abandon its Little Cottonwood branch, 0.14 mile, together with a 0.24-mile spur track, in Sandy, Utah.

MANCHESTER & ONEIDA.—To abandon its entire line, from Manchester, Iowa, to Oneida, 8.3 miles. Division 4 found the road has been operated at a loss for several years, and said its abandonment would cause little inconvenience to the public.

Application has been filed with the I.C.C. by:

HELENA & NORTHWESTERN.—To abandon its entire line, 53.5 miles, from Helena, Ark., to Cotton Plant. The line was formerly a segment of the Missouri & Arkansas, abandonment of which was approved by the I.C.C. in 1948. The H.&N. was then formed, and received authority to operate the 53.5-mile segment. After a small net profit in 1949, the road incurred substantial deficits in 1950 and the first five months of 1951. The road said competition, failure of connecting lines to agree to open through routes to enable it to handle overhead traffic, and an unstable financial condition caused traffic to diminish.

NACOGDOCHES & SOUTHEASTERN.—To abandon a 12-mile line from a point near Nacogdoches, Tex., to the end of the line near Woden. Logging and lumber operations that once furnished traffic for the line have "virtually disappeared," the road said.

CONSTRUCTION

Atchison, Topeka & Santa Fe.—The station at Lamy, N. M., will be remodeled under a contract awarded to W. A. Stanton of Santa Fe. Frenzel Brothers Company, Chicago, have been awarded a contract covering grading work for track at Willow Springs, Ill. The work of grading and pile driving for a "shoofly" and a raise of grade near Gage, Okla., has been covered by a contract awarded to Allhands & Briley, Dallas, Texas.

Chicago & North Western.—Construction projects totaling nearly $4 million are currently in progress or will be undertaken shortly. The largest single project is construction of 9.07 miles of track east of Negaunee, Mich., — a joint undertaking with the Duluth, South Shore & Atlantic and the Lake Superior & Ishpeming. A Lindberg & Sons of Ishpeming have been awarded the general contract for grading and track construction and the General Railway Signal Company is to install centralized traffic control. Total estimated cost of this project is $1,571,930.

Other projects include: Installation of intermittent inductive-type automatic train stop between Chicago and Wyeville, Wis., by company forces — $500,200; raise of grade three to four feet at four locations between Tama, Iowa, and Council Bluffs, by company forces — $338,300; extension of passing tracks at seven Illinois, Iowa, Wisconsin and Minnesota locations by local grading contractors—$231,420; replacement of bridge across Namadji river swamp, Itasca, Wis., (construction of 16 28-ft. I-beam spans, open timber deck on braced steel H-bearing pile bents to replace 32 pile and frame bridge spans) by Chicago, St. Paul, Minneapolis & Omaha forces and the Strobel Construction Company of Chicago — $174,000; construction of two additional yard tracks and relocation of car department facilities at Waukegan, Ill., by company forces — $99,330; installation of system to dispose of sewage from various yard facilities at Proviso, Ill., by outside contractor — $75,000; installation of dust control system in grain elevator at Council Bluffs by W. C. Wiedemann & Sons, Inc., Kansas City, Mo. — $65,575; construction of brick passenger and freight station at Cary, Ill., by G. A. Johnson & Son, Chicago — $33,625; construction of additional yard tracks at Sterling, Ill., by company forces and local contractor — $51,175; construction of new yard office and welfare facilities at Third st. yard, Milwaukee, Wis., by Henry Danischefsky of Milwaukee — $61,000; provision of sheet steel piling around center pier of draw span and pressure grouting of masonry pier of bridge crossing St. Croix river, Hudson, Wis., by F. A. Raven of Minneapolis, Minn. — $61,000; provision of gravel and concrete-filled sheet steel pile cylinder for protection of pier of bridge crossing Illinois river at South Pekin, Ill. — $36,000.

Chicago, Rock Island & Pacific —Atchison, Topeka & Santa Fe.—These roads have asked the I.C.C. for approval of a plan for rearranging some jointly-owned and operated trackage in Oklahoma City, Okla. The plan is sponsored by the chamber of commerce which would pay the cost of relocating the segments. Altogether about 10 miles of existing trackage would be abandoned, and segments totaling about 7 miles would be constructed. The plan, if approved, will eliminate one Rock Island segment from the city fair grounds and will permit the city to construct and improve highways in the area. The roads would furnish second-hand material for constructing the new lines.

New York Central.—This road will improve its Ashtabula Harbor docks during the winter to speed unloading of ore from the new and larger Great Lakes vessels. Hulett ore unloaders at the docks will be improved by installation of gooseneck-type equalizers. With the new equalizers all ore in the deeper holds can be removed quickly, thus making vessels ready sooner for reloading with coal for return trips.

(*Continued on page 78*)



In addition to a dependable supply of power during non-generating intervals on the road for the lights, air-conditioning equipment and a variety of electrical conveniences on modern streamlined passenger cars, Edison batteries afford the utmost economy of operation.

Proved Economy

A recent analysis of ALL EDISON car-lighting batteries replaced by one railroad during a period of 12 months showed that the batteries had given an average of 26.18 years of service.

A similar analysis of ALL EDISON batteries replaced by another railroad during a period of 12 months—from both air-conditioned and non-air-conditioned cars—showed an average of 18.04 years of service.

The railroads in this group have more than 2000 sets of EDISON batteries in operation on passenger-train cars.

The same construction and operating principle which result in long life also result in economy in respect to cell repairs. We have recently totaled the amounts billed by us for cell repairs, tools, paint and electrolyte during a 12-month period to the same group of railroads. The amounts were found to range from $2.46 per battery per year to $6.99 per battery per year.

It has been said that "one swallow does not make a summer" and, similarly, one battery that delivers long life and low cost could conceivably be an exception. But the records of more than 2000 sets of batteries are likely to be representative, and we believe may fairly be presented as PROOF of economy. Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, New Jersey. Thomas A. Edison of Canada, Limited, Montreal.

You can always rely on



EDISON

Nickel • Iron • Alkaline

STORAGE BATTERIES

LIGHT-WEIGHT BATTERIES FOR LIGHT-WEIGHT CARS

Made for Every Weight of Rail



Track Bolts are a Lebanon Plant Product

BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

Bethlehem supplies every type of Railroad Fastener

(*Continued from page 75*)
Equalizers now on the Huletts are of the straight type.

With this improvement it will be possible for more ore to be handled in 1952 than in 1951, which promises to be one of the all-time record years for ore loading. As of October 29, 81,771,970 tons of ore had been handled this season compared to the all-time record of 92,076,781 tons loaded in 1942.

CAR SERVICE

The Car Service Division, Association of American Railroads, cancelled, as of 12:01 a.m. November 13, the embargo which had halted movement of freight consigned for export and coastal shipping through New York harbor. The action was taken when the strike of longshoremen ended. A like embargo which had halted movements to Boston, was lifted a few day earlier. (*Railway Age*, October 29, page 52).

FINANCIAL

Canadian National.—*Purchase.*—The C.N. has bought the 26-mi. Montmorency division of the Quebec Railway, Light & Power Co. for $750,000. The line runs from Quebec City East to St. Joachim on the north shore of the St. Lawrence river. It connects at St. Joachim with the C.N. line to Nairn's Falls. Acquisition gave the C.N. a north shore rail line running 92 mi. from Quebec to Nairn's Falls via Montmorency Falls, Ste. Anne de Beaupre and Murray Bay. (*Railway Age*, July 30, page 54.)

Chesapeake & Ohio.—*New Director.*—Thomas J. Deegan, Jr., vice-president of the C. & O. in charge of passenger traffic, public relations and advertising, and president of the Federation for Railway Progress, has been elected to the C. & O.'s board of directors to succeed the late Howell B. Erminger.

Chicago, Milwaukee, St. Paul & Pacific. — *Trackage Rights.* — This road has applied to the I.C.C. for approval of a trackage rights agreement under which it would operate over segments of the Green Bay & Western, Winona Bridge Railway Company, and the Chicago, Burlington & Quincy. As part of the same arrangement, the C.M.St.P.&P. seeks authority to abandon its pontoon bridge across the Mississippi River between Trevino, Wis., and Reads Landing, Minn. Abandonment of this bridge, which requires periodic reconstruction because of high water, is expected to result in substantial savings to the road. The Milwaukee would continue to provide service at points now served, by using the alternate route, which involves approximately 36.3 miles of C.B.&Q. trackage, 369 feet of the G.B.&W., and the Winona's bridge across the river at Winona, Minn. The agreement provides that the C.M.St.P.&P. shall pay $1 a train mile, subject to an annual minimum payment. It will not handle local business along the Green Bay or Burlington tracks.

Florida East Coast.—*Reorganization.*—The I.C.C. has issued a sixth supplemental report in this proceeding, generally affirming the plan of reorganization approved in a prior report last July. (*Railway Age*, July 23, page 62). This latest report came after various parties in the case requested reconsideration of the reorganization plan. Among other things, the commission dismissed pleas that capitalization of the reorganized F.E.C. be $58,000,000, instead of $46,500,000 as previously approved. The commission again refused to approve a so-called "internal reorganization plan" for the F.E.C., which the St. Joe Paper Company, a major bondholder, had advocated.

A modification was made with respect to the "consummation date" of the plan of reorganization. Acting "in line with our original intent," the commission said the rights of creditors as to cash distributable to them under the plan "shall be determined as of the consummation date." This date will be fixed by the court.

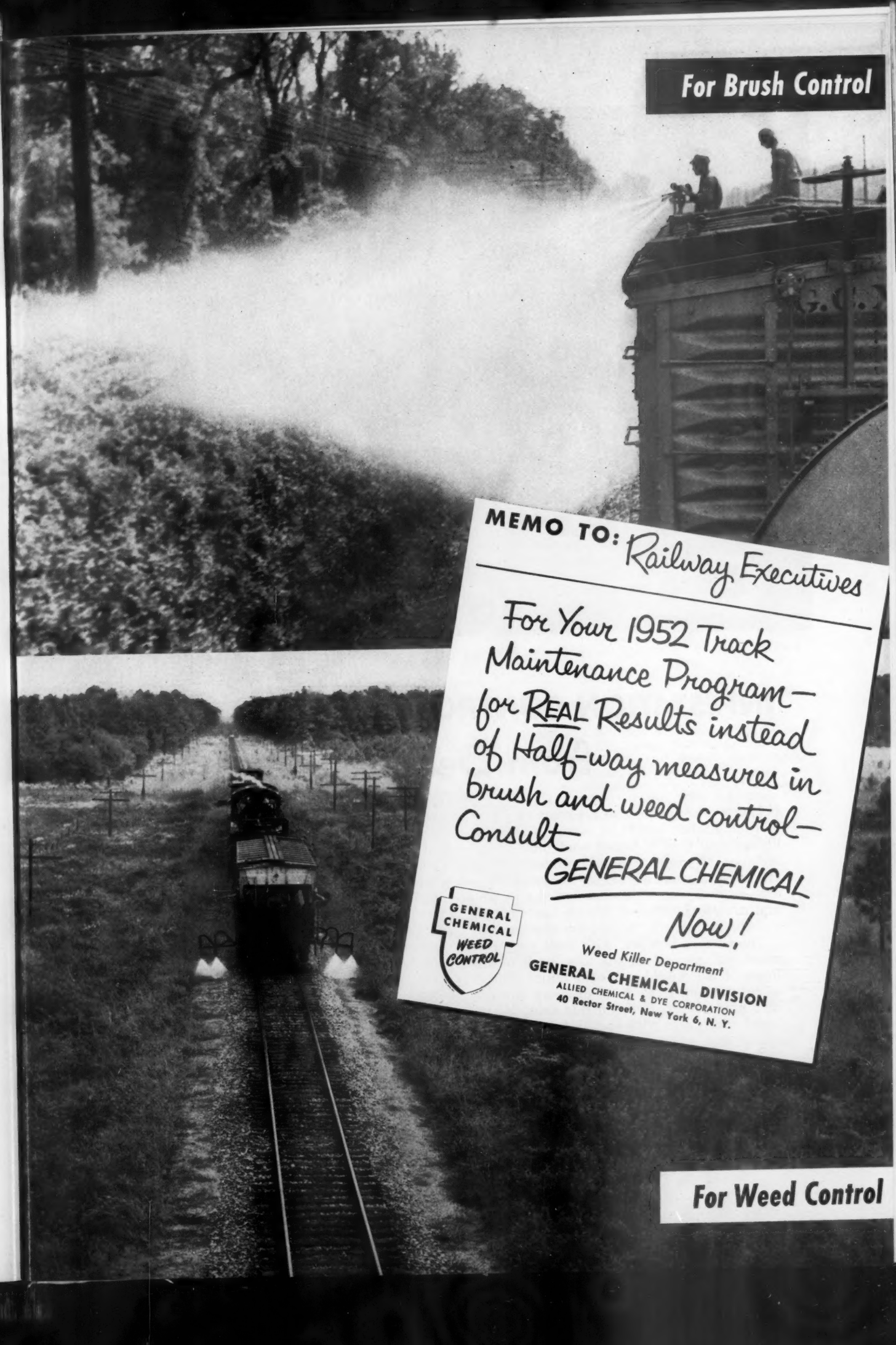
As in the report last July, the I.C.C. divided 7-to-3 in approving the plan. Commissioner Mahaffie, joined by Chairman Splawn and Commissioner Lee, said he still thinks the plan as approved by the commission will "un-

(*Continued on page 81*)

ANNUAL REPORTS

Railroad		Operating Revenues	Operating Expenses	Fixed Charges	Net Income	Current Assets*	Current Liabilities*	Long Term Debt*
Alabama Great Southern	1950	$18,522,643	$13,168,441	$347,168	$3,339,105	$13,661,086	$5,569,206	$13,089,500
	1949	16,117,999	12,616,445	346,588	2,365,915	11,347,467	4,367,319	11,036,376
Bessemer & Lake Erie	1950	23,842,342	17,759,074	361,869	3,900,101	12,641,271	7,891,019	11,917,000
	1949	21,529,703	16,123,023	396,415	3,483,021	14,015,805	6,056,700	13,037,000
Chicago, St. Paul, Minneapolis & Omaha	1950	33,757,997	27,466,210	2,480,304	297,412d	8,310,808	5,589,965	54,713,140
	1949	31,781,014	27,355,842	2,485,491	1,109,071d	7,919,965	5,648,832	54,735,710
Clinchfield	1950	20,445,862	11,654,855	2,317,332	5,988,120	6,843,035	12,342,729	11,146,301
	1949	16,668,785	10,717,198	2,311,928	2,595,193	4,675,067	9,444,819	10,447,856
Colorado & Southern	1950	14,889,830	9,850,346	637,406	1,607,966	6,099,620	4,977,359	37,238,825
	1949	13,272,895	10,243,535	600,496	870,602	5,617,287	3,892,880	37,635,991
Florida East Coast	1950	26,890,357	22,364,809	2,744,245	3,029,950d	20,193,224	970,111	60,282,242
	1949	25,902,146	21,803,994	2,723,234	4,478,454d	20,496,770	898,135	60,403,086
Ft. Worth & Denver	1950	20,510,360	13,198,185	1,210,148	2,050,855	7,901,942	5,805,921	7,377,107
	1949	16,444,309	11,358,782	1,126,179	1,362,835	6,496,024	2,914,068	6,810,317
International-Great Northern	1950	34,408,437	27,223,524	2,953,364	1,305,335	15,877,418	9,667,124	58,208,014
	1949	30,591,248	25,161,663	2,934,557	109,653	13,209,548	7,015,137	58,185,525
Long Island	1950	49,316,226	42,872,220	———	4,604,712d	20,779,168	25,624,646	58,305,489
	1949	49,996,233	44,404,742	———	5,208,288d	15,520,081	21,347,329	59,108,127
Missouri Pacific	1950	220,366,395	161,330,201	18,475,762	17,393,723	101,287,789	41,018,393	368,196,557
	1949	173,224,245	142,582,255	17,185,100	2,740,807	78,744,956	27,722,268	365,293,709
New York, Susquehanna & Western	1950	5,110,476	3,771,288	631,761	114,546	4,203,669	2,325,001	13,151,992
	1949	4,541,127	3,650,582	635,353	120,586d	2,884,193	1,788,519	12,816,865
Texas & Pacific	1950	70,731,267	48,696,022	2,861,125	8,251,486	33,877,198	16,093,689	68,230,056
	1949	62,440,728	48,423,551	2,829,978	4,955,971	25,778,667	10,982,179	67,025,623
Western Maryland	1950	41,874,602	28,621,231	2,809,084	5,368,368	17,734,358	13,346,781	58,979,865
	1949	38,936,544	27,749,002	2,797,271	4,044,777	15,889,764	8,807,219	61,592,865
Wichita Valley	1950	1,810,623	944,888	212,036	208,052	913,474	539,113	3,048,775
	1949	1,407,688	865,456	226,570	85,354	603,805	393,883	3,558,139

*—On December 31
d—Deficit


For Brush Control
MEMO TO: Railway Executives
For Your 1952 Track Maintenance Program—for REAL Results instead of Half-way measures in brush and weed control—Consult GENERAL CHEMICAL Now!
GENERAL CHEMICAL WEED CONTROL
Weed Killer Department
GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
For Weed Control



Inorganic Fiberglas material stops insects. These two pictures of the same beaker, taken months apart, show that insects do not penetrate, live in, or propagate in Fiberglas material. Top layer, clean flour; bottom layer, infested flour. Between the two, a 2-inch barrier of compressed Fiberglas Infestation Control Material.

INFESTATION CONTROL...

from Beaker to Box Car

It is now possible to treat a boxcar so that it will not harbor insects or larvae behind the linings—so that it cannot contribute to infestation of grain or milled products. Now, after several years of "beaker to boxcar" testing—several years of laboratory test, field trial and proof—the Bishop System has emerged . . . the permanent, simple, low-cost answer.

The ends of boxcars, with their deep corrugations, as well as the area back of the liners of the car sides, are the major sources of infestation. Here dusts of every conceivable kind collect. Here, in this dust, insects breed. Even cars with so-called self-cleaning sides accumulate these same dusts as well and should be Bishop protected.

The Bishop System controls the infestation problem because it specifies installation of this Fiberglas* material in the entire area and space behind the liners. This prevents infiltration, and filling of this space with dust.

Thus through relatively simple car construction this very troublesome problem is controlled.

For information, contact GUSTIN-BACON MFG. CO., Kansas City 7, Mo. Or Transportation Division, Dept. 21-K, OWENS-CORNING FIBERGLAS CORPORATION, Toledo 1, Ohio.

OWENS-CORNING FIBERGLAS ...IN YOUR LIFE...FOR GOOD!

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.

(*Continued from page 78*)
necessarily postpone" termination of this case.

Missouri Pacific. — *Reorganization.*—The I.C.C. incurred expenses of $8,005 in submitting the most recent M. P. reorganization plan to creditors and stockholders. Under the Bankruptcy Act, cost of this submission must be borne by the debtors' estate.

New York, New Haven & Hartford.—*Cash Resources; Palmer Suit Settled.*—This road, in a statement issued after a recent meeting of the board of directors, reported that during the time it operated under Frederic C. Dumaine, Sr., its late President and chairman, its cash resources were increased by $5,000,000, despite large expenditures. Capital, and other, payments made during Mr. Dumaine's tenure totaled $51,790,000, the statement said, including $17,481,000 in reduction of debt and stock; $13,909,000 for instalment payments on equipment obligations; $7,800,000 in down payments for new equipment; $9,600,000 for improvements to roadway and equipment; and $3,000,000 in settlement of Boston Terminal taxes of $4,062,000 for 1939-49.

Howard S. Palmer, former president of the New Haven, has settled out of court, for an undisclosed amount, his breach-of-contract suit against the railroad. (*Railway Age*, April 30, 1949, page 64). Mr. Palmer reportedly had charged the New Haven with violation of an agreement giving him a pension, payable in monthly instalments, for past service and future services in an advisory capacity.

Pacific Coast. — *Purchased by Great Northern.*—See story in General News section.

Rockdale, Sandow & Southern. —*Operation of New Line.*—This road as applied to the I.C.C. for authority to rehabilitate and operate a rail line, not now operated in interstate commerce, between Marjorie, Tex., and Sandow, approximately 6.7 miles. The line will serve a large aluminum reduction plant, and an adjoining steam electric generating plant, near Sandow. Aluminum Company of America, which is constructing the new plant, will acquire all of this road's outstanding stock and bonds and will furnish funds for rehabilitation of the rail line.

Dividends Declared

CATAWISSA.—5% 1st preferred; 5% 2nd preferred, both 75c, semiannual, payable November 21 to holders of record November 7.

CHICAGO, ROCK ISLAND & PACIFIC.—common, $1, quarterly; preferred, $1.25, both payable December 27 to holders of record December 13.

DELAWARE & BOUND BROOK.—50c, quarterly, payable November 20 to holders of record November 13.

NORTH PENNSYLVANIA.—$1, quarterly, payable November 25 to holders of record November 18.

PHILADELPHIA & WESTERN.—$3, payable December 1 to holders of record November 15.

PITTSBURGH & WEST VIRGINIA.—50c, payable December 14 to holders of record November 20.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, $1.75, quarterly, payable December 3 to holders of record November 20.

RUTLAND & WHITEHALL.—$1, quarterly, payable November 15 to holders of record November 1.

ST. LOUIS-SAN FRANCISCO.—62½c, payable December 15 to holders of record December 1.

Security Price Averages

	Nov. 13	Prev. Week	Last Year
Average price of 20 representative railway stocks	52.99	53.19*	48.30
Average price of 20 representative railway bonds	91.37	91.48	95.86

*Corrected

New Securities

Application has been filed with the I.C.C. by:

MISSOURI PACIFIC.—To assume liability for $6,525,000 of series QQ equipment trust certificates, to finance in part 51 diesel-electric locomotives costing an estimated $8,229,514.

	Description and Builder	Estimated Unit Cost
12	1,600-hp. freight locomotives (American Locomotive Company)	$174,934
16	1,600-hp. freight locomotives (Alco)	163,684
12	1,600-hp. freight locomotives "B" units (Alco)	149,973
11	1,500-hp. road switching locomotives (Electro-Motive Division, General Motors Corporation)	155,608

The certificates, dated December 15, would mature in 15 annual installments of $435,000 each, beginning December 15, 1952. They would be sold on the basis of competitive bids, with the interest rate to be set by such bids.

RAILWAY OFFICERS

EXECUTIVE

Edmond H. Gaiennie has been appointed vice-president in charge of traffic for the TOLEDO, PEORIA & WESTERN, with headquarters in Peoria, Ill. He began his traffic career with the Cleveland office of the St. Louis-San Francisco in 1935, having been with



Edmond H. Gaiennie

Frisco since 1934. He served with this road in its offices at Chicago, Oklahoma City, Okla., and Fort Sill until his entry in the Navy in 1944. Mr. Gaiennie returned to the Frisco in 1946 as general agent in the passenger department in Chicago, and came to the T.P.&W. in 1947 as traffic manager at Chicago. In February 1948 he was transferred to Peoria as general traffic manager, which position he held until his recent appointment.

Thomas Balmer has been elected president of the 32-mi. PACIFIC COAST, in addition to his duties as vice-president and western counsel of the GREAT NORTHERN, which has just acquired the Washington short line. Other G.N. officers in the new management on the P. C. are: **I. E. Manion,** general manager of G.N. lines west, who has been elected vice-president in charge of operations, and **R. P. Starr,** western traffic manager of the G.N., who has been elected vice-president and traffic manager of the smaller road. (For further details see story in the General News section.)

FINANCIAL, LEGAL & ACCOUNTING

James J. McManus, freight claim agent of the NORTHERN PACIFIC, at St. Paul, has retired after 54 years of railroad service.

C. A. Naffziger, superintendent stations and claim prevention for the MISSOURI PACIFIC, has been named acting freight claim agent for the subsidiary MISSOURI-ILLINOIS. His headquarters remain at St. Louis, Mo.

Frank J. Sollar, first assistant freight claim agent for the NORTHERN PACIFIC, has been appointed system freight claim agent in St. Paul. He succeeds **James J. McManus,** retired after 54 years of railroad service.

William B. Gubbins, general attorney for the ILLINOIS CENTRAL, has been appointed general tax attorney. **Harold E. Spencer,** commerce attorney, has been appointed assistant general attorney. Both have headquarters at Chicago.

F. G. Pfrommer has been appointed commerce attorney for the ATCHISON, TOPEKA & SANTA FE, with headquarters in San Francisco.

R. P. Tjossem, assistant western counsel of the GREAT NORTHERN, has been elected secretary of the PACIFIC COAST. **Clark Eckart,** also assistant western counsel of the G.N., has been elected general attorney of the P.C. **J. D. Munson,** general claims agent of the Oregon, California & Eastern (G. N. subsidiary), has been elected general claims agent of the P.C. and **H. A. Sweeney** has been elected general claim agent.

OPERATING

B. H. Decker, superintendent of the DENVER & RIO GRANDE WESTERN, (*Continued on page 84*)

Day by Day Napery becomes more important to You!

The preparedness phases of the nation's economy mean added responsibility for you. Increased travel means increased demands on your services. You can't do without the assurance of a continued supply of good napery — preferably from a reliable American source.



A daily necessity—good napery to maintain good service

NAPERY REDUCES SPILLAGE—dishes, glassware won't slide on covered tables; and if an accident does occur, the cloth absorbs liquids, cuts down hazard to clothing.

NAPERY PUTS CLEANLINESS FIRST—uncovered tabletops (often unfinished) are liable not to be cleaned properly, can be unsanitary.

NAPERY EASES TENSION—an attractive appearance is important to busy people—helps them relax, enjoy good food in an atmosphere of good taste.

NAPERY BOUGHT AT "HOME" guarantees you a consistent supply of the finest quality, from American resources which assure you of the best service!

Simtex

at your service
with the finest napery
for over 50 years.

Simtex Mills, 40 Worth Street, New York 13, N. Y. • Division of Simmons Co., Makers of the Famous Beautyrest Mattress



This rebuilt locomotive cylinder head joint is "good as new." Many worn locomotive and car parts can be reclaimed at substantial savings.

5 *Cylinders for the price of 1*

What do you do when locomotive cylinder head seats wear down? You can buy new cylinders. Or you can ask OXWELD how to rebuild worn seats at about one-fifth the cost of new ones.

The high cost of living also applies to railroads. But with OXWELD'S methods, costly or scarce car and locomotive parts, such as this cylinder, can be repaired and returned to service at a fraction of the cost of a new part.

Here, four railroad welding operators build-up cylinder stud, flange, and head seat areas under the direction of an OXWELD service man. All of these areas are built up in 8 hours, including filling of stud holes. 300 lb. of OXWELD No. 25M bronze rod are used. Usually such reclamation is performed without removing the cylinders from the locomotive.

OXWELD RAILROAD SERVICE COMPANY, ROOM 1320
230 N. Michigan Avenue, Chicago 1, Illinois

Gentlemen:

Please send me booklet F-7371, "How the Oxy-Acetylene Flame Helps Railroads."

NAME_____

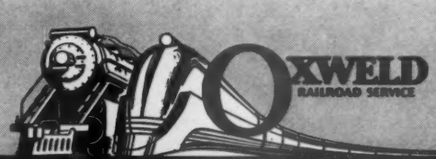
POSITION_____

RAILROAD_____

ADDRESS_____

Write for booklet F-7371 which contains useful information on making repairs. Use the handy coupon.

OXWELD RAILROAD SERVICE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto



SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation.

(*Continued from page* 81)
has been appointed assistant to vice-president, with headquarters as before at Salt Lake City.

J. J. Bowes, trainmaster of the BOSTON & ALBANY at Worcester, Mass., has been appointed trainmaster of the Syracuse division of the NEW YORK CENTRAL. **L. H. Stecker,** trainmaster of the N.Y.C. at Lyons, N. Y., has been appointed assistant superintendent of the B.&A. at Boston. **C. E. Bell,** assistant trainmaster of the B. & A. at Beacon Park, Allston, Mass., has been appointed trainmaster.

F. A. Johnson, personnel officer for the WABASH, has been appointed assistant general manager of both the ANN ARBOR and the WABASH, with headquarters as before at St. Louis.

J. B. Norwood, Jr., has been appointed acting superintendent of the Alamosa division of the DENVER & RIO GRANDE WESTERN at Alamosa, Colo.

J. W. O'Neill, assistant superintendent for the ELGIN, JOLIET & EASTERN at South Chicago, Ill., has been appointed superintendent of the Gary division at Gary, Ind., succeeding **M. R. Joyce,** who has been assigned other duties.

B. W. Mitchell has been appointed superintendent of the Los Angeles division of the SOUTHERN PACIFIC, at Los Angeles, succeeding **H. R. Gernreich,** who has retired. **D. P. Boykin** succeeds Mr. Mitchell as superintendent of the San Joaquin division, of which he has been assistant superintendent, at Bakersfield.

Mr. Gernreich started his railroad career with the S.P. in 1902 as a car cleaner, later becoming car repairman, freight brakeman, freight conductor, yardman and engine foreman. In 1912 he became yardmaster, and in 1917, trainmaster. He subsequently served as assistant superintendent of the Los Angeles division (1925), and was transferred to the Western division in 1931, in the same position. He joined the Northwestern Pacific in 1938 as superintendent, becoming vice-president and general manager in 1939. He returned to the S.P. as superintendent of the Los Angeles division in 1941, and was appointed also vice-president and general manager of the San Diego & Arizona Eastern at that time.

I. E. Clary, superintendent of the GREAT NORTHERN at Seattle, has been named superintendent of the PACIFIC COAST.

Robert G. Vawter, general superintendent of the Eastern General division of the CHESAPEAKE & OHIO at Clifton Forge, Va., has been appointed general manager of the Chesapeake district at Richmond, Va. **R. G. McGehee,** superintendent of the Richmond division at Richmond, succeeds Mr. Vawter as general superintendent at Clifton Forge. **W. S. Butler,** superintendent of terminals at Walbridge, Ohio, has been appointed superintendent of the Richmond division, succeeding Mr. McGehee. **F. S. Harris,** superintendent of the Chicago terminal, has been transferred to Walbridge to succeed Mr. Butler.



Robert G. Vawter

Mr. Vawter was born at Greenville, W. Va., on May 9, 1895, and entered railroad service in March 1916 as rodman with the Virginian. He joined the C. & O. in October 1917 as assistant engineer and rose through the positions of supervisor of track, yardmaster, trainmaster, assistant superintendent and superintendent. In 1947 Mr. Vawter was named assistant general superintendent of the Western General



R. G. McGehee

division at Huntington, W. Va., becoming general superintendent of the Eastern General division at Clifton Forge in June 1949.

Mr. McGehee was born at Richmond 50 years ago and joined the C. & O. as a rodman in the engineering department at Clifton Forge in August 1920. He served successively as assistant cost engineer, assistant division engineer and trainmaster at Clifton Forge before being appointed superintendent at Richmond in January 1947.

Mr. Butler was born at Handley, W. Va., 48 years ago and entered the service of the C. & O. as a clerk at Russell, Ky., in November 1926. He



W. S. Butler

served successively as yardmaster, assistant general yardmaster and assistant terminal trainmaster at Russell, trainmaster at Cheviot, Ohio, and assistant superintendent at Cincinnati before becoming superintendent of terminals at Walbridge in July 1949.

TRAFFIC

J. J. Harr has been appointed assistant general agent, freight department, of the SOUTHERN PACIFIC, at Chicago.

K. P. McDonald has been appointed general agent for the COLUMBIA, NEWBERRY & LAURENS at Kingsport, Tenn.

John Stationak has been appointed division freight agent of the CHICAGO, ROCK ISLAND & PACIFIC at Joliet, Ill.

H. J. McCallum, city passenger agent for the CANADIAN NATIONAL at Saskatoon, Sask., has been appointed district passenger agent there. **W. A. V. Brydone-Jack** has been appointed district freight and passenger agent at Vernon, B. C.

E. N. Duncan has been appointed director of the agricultural development department of the GREAT NORTHERN at St. Paul. **A. J. Haley** has been appointed chief geologist in charge of the mineral development department, with offices in St. Paul and Seattle. **R. V. Backstrom,** assistant director of the agricultural development department in St. Paul, has been appointed western agricultural development agent in Seattle, succeeding Mr. Duncan. Mr. Backstrom is succeeded

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The ever increasing life expectancy of Amcreco Creosoted Products is no accident. It is the direct result of continuing research and development at Amcreco. With the tried and proven Lowry pressure creosoting process as the foundation, refinements and improvements in treatment techniques have in many instances doubled and even tripled service life in the space of the last 25 years.

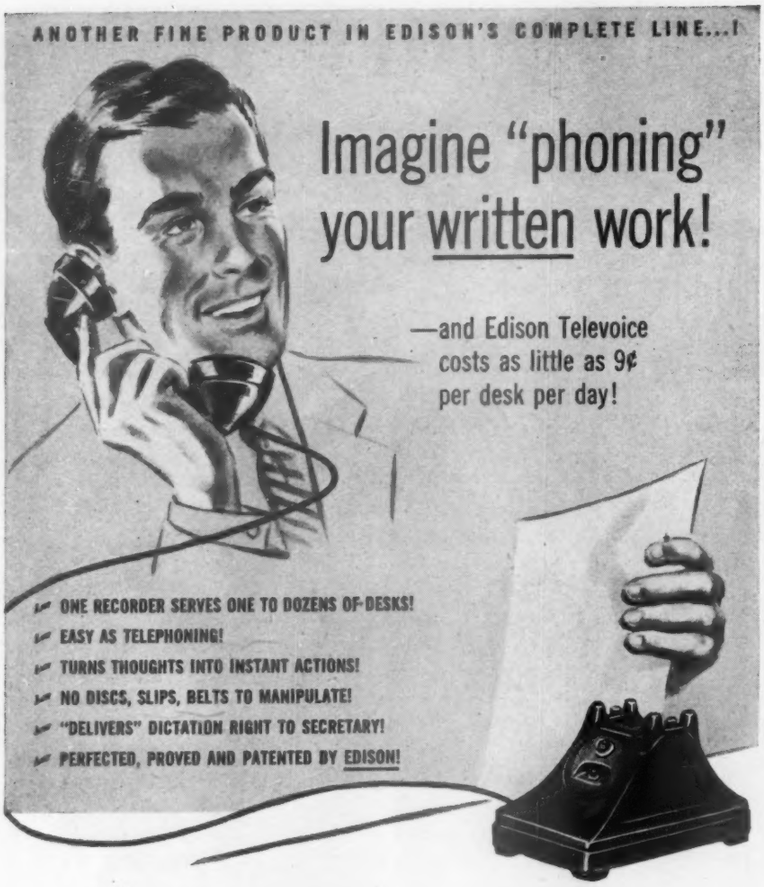
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by **E. H. Thomas,** agricultural development agent at Spokane, Wash. **E. B. Duncan,** department director in St. Paul, has been appointed special agricultural representative at Spokane. **R. A. Watson,** assistant geologist at Spokane, has been promoted to geologist at the same point.

A graduate of Iowa State College, E. N. Duncan later served in the college's agricultural extension service and the Farm Security Administration in Iowa. He was agricultural development agent at Spokane from 1942 to 1944, leaving to enter the Navy. He has been the G.N.'s western agricultural development agent since 1946, with headquarters in Seattle.

R. M. Conlin, Jr., has been appointed division passenger agent of the BALTIMORE & OHIO at Detroit, succeeding **E. D. Phillips,** resigned.

J. M. Enders has been appointed general agent of the SEABOARD AIR LINE at Chicago, succeeding **O. A. Williams,** who has been transferred to St. Louis. Mr. Williams replaces **H. P. Smith,** who has retired from active duty because of ill health, after nearly 30 years of service.

L. S. Eichner has been appointed manager mail, express and baggage traffic of the BALTIMORE & OHIO at Baltimore, succeeding **T. J. Younker,** promoted.

The ILLINOIS CENTRAL has transferred its district passenger agency from Minneapolis to Milwaukee. **Joseph C. LaCombe** has been appointed district passenger agent at the new location — 705 Majestic building, Milwaukee 3.

O. R. Lambertson, agent for the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Kansas City, Mo., has been appointed general agent at Cedar Rapids, Iowa, succeeding **F. H. Houston,** retired.

PURCHASES & STORES

Frank B. Bryan, sectional storekeeper for the ATCHISON, TOPEKA & SANTA FE, has been appointed stationer, with headquarters as before at Topeka, Kan. He succeeds **William J. Duff** retired.

ENGINEERING AND SIGNALING

N. E. Peterson, engineer maintenance of way for the CHICAGO & ILLINOIS MIDLAND, has been appointed chief engineer, with headquarters as before at Springfield, Ill.

Lee W. Howard, assistant valuation engineer of the ILLINOIS CENTRAL, has been promoted to valuation engi-

NICKEL ALLOY IRONS
develop improved properties
plus all the basic advantages of plain cast iron

PLAIN GRAY IRON is, structurally, a steel matrix containing graphite flakes. Engineering, physical, processing and service properties are wholly dependent upon the character and disposition of these flakes, and upon the nature of the matrix.

The matrix of nickel alloyed irons closely resembles the pearlitic matrix found in high carbon steels, whereas the matrix of ordinary plain iron resembles that found in low carbon steels. Compositions of nickel alloy irons can be adjusted to reduce "chill" in thin sections without risk of forming "spongy" regions in heavy sections. This promotes uniform strength, improved machinability, pressure tightness and wear resistance.

Hardness in nickel cast irons results from improvement of the matrix. Chilled areas and hard carbides, which impair machinability, are obviated. Nickel improves response to heat treating. In fact, use of nickel alone or with other alloying elements plays an important part in meeting a variety of requirements.

Accordingly . . . nickel alloyed irons permit production of castings with high levels of the following properties:

Strength

Tensile and transverse strengths of castings are greatly increased by the addition of nickel to cast irons of properly adjusted base mixture. The ratio of compressive strength to tensile strength is retained. Greater uniformity of strength in thick and thin sections is achieved.

Elasticity

The elastic modulus increases with strength. In this respect nickel-containing irons of the high strength type possess good stiffness and do not deform permanently under loads that would be damaging to irons of lower elastic modulus.

Damping Capacity

The damping capacity inherent in gray cast iron is not impaired by the presence of nickel.

Wear Resistance

The uniformly pearlitic matrix of nickel cast irons appreciably improves wear resistance. The uniformly fine graphite flake distribution, achieved in suitably processed irons *without formation of a poor wearing dendritic condition,* affords optimum resistance to wear and galling.

Pressure Tightness

Characterized by dense grain structure and fine dispersion of graphite throughout, nickel alloy irons are close-grained and offer an extraordinary degree of pressure tightness under high hydrostatic pressures, without sacrificing machinability.

Applications

Heavy machinery frames and *beds* are typical of cast parts that benefit from the rigidity and good damping capacity of nickel cast irons. *Cylinder* and *pump liners, gears, dies, machine tool ways, saddles* and *tables* exemplify parts produced in nickel irons to assure greatly increased strength and wear resistance. And nickel alloyed iron is used for *heavy duty brake drums* to resist heat checking, thermal shock, wear and galling. The nickel cast irons are readily heat treated, and respond particularly well to flame and induction hardening.

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neer, with headquarters as before at Chicago, to succeed **C. C. Haire,** retired.

R. E. Loomis has been appointed assistant to the chief engineer of the ELGIN, JOLIET & EASTERN at Joliet, Ill.

L. H. Simon, construction engineer of the ATCHISON, TOPEKA & SANTA FE at Los Angeles, has been appointed construction engineer of the system, with headquarters at Topeka, Kan. He succeeds **J. W. Cook,** retired after 42 years of service. **R. B. Wheeler,** construction engineer at Amarillo, Tex., replaces Mr. Simon at Los Angeles, and **J. C. Coble,** assistant engineer at Topeka, succeeds Mr. Wheeler. **Dell Duby,** gang foreman at Topeka, becomes assistant engineer at that point.

MECHANICAL

W. C. Reddick, traveling mechanical inspector for the ST. LOUIS-SAN FRANCISCO, has been appointed assistant master mechanic, a newly created post.

Harold T. Theis has been appointed chief electrical engineer of the CENTRAL OF NEW JERSEY, reporting to the superintendent motive power and rolling equipment. The position of electrical engineer, formerly held by **R. W. Keller,** deceased has been abolished.

Irving C. Blodgett, supervisor of schedules of the BOSTON & MAINE, has retired after more than 50 years of service. He was assistant to the mechanical superintendent from 1926 to April 1927.

V. V. Viar, general foreman of the CHESAPEAKE & OHIO at Hinton, W. Va., has been appointed master mechanic of the Hinton division at Hinton, succeeding **M. T. Llewellyn,** who retired on November 1.

V. G. Small, assistant superintendent car department for the ELGIN, JOLIET & EASTERN, at Joliet, Ill., has been appointed superintendent car department, with headquarters at the same point. He succeeds **W. A. Emerson,** retired after 50 years of service.

C. H. Gray has been appointed superintendent motive power for the CHICAGO, ROCK ISLAND & PACIFIC at El Reno, Okla. **C. B. Camp** has been appointed superintendent automotive equipment at El Reno, succeeding Mr. Gray.

W. J. Strout, chief engineer of the BANGOR & AROOSTOCK at Houlton, Me., has been appointed acting mechanical superintendent, succeeding **Orris L. Dean,** who has retired on account of ill health, after 38 years of service. Mr. Dean was born at Medford, Me., on December 2 1890, and served as sectionman on the B.&A. at Derby, Me., during the summer of 1909 and from June 1910 until February 1911. Since September 1914 he has been in the continuous service of that road in the positions of machinist helper, machinist, erecting foreman, acting general foreman, general inspector motive power, shop superintendent, acting mechanical superintendent, mechanical superintendent, superintendent shops and mechanical superintendent.

SPECIAL

Dr. John R. Winston, chief physician of the Gulf, Colorado & Santa Fe Hospital Association at Temple, Tex., has been appointed medical director of the ATCHISON, TOPEKA & SANTA FE. His headquarters will remain at Temple.

W. E. Rachels, public relations representative of the SEABOARD AIR LINE, has been advanced to director of public relations, with headquarters as before at Norfolk, Va. Mr. Rachels was born at Sparta, Ga., and began his service with the Seaboard in 1926 at Savannah, Ga. He served in posi-

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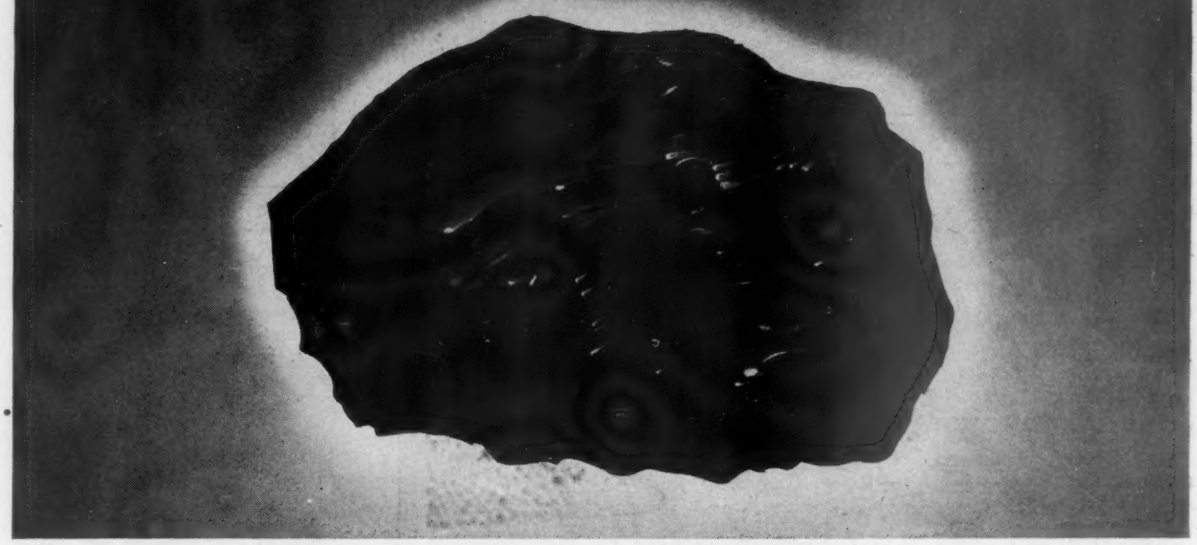


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Coal is fertilizer for our farms, cement for our buildings. Coal provides steam and electric energy which spin the machines in our factories.

Today coal supplies power to make the good things that make up our good life. In the future, coal will make more products available to more people at the lowest possible prices.

How fortunate there's coal enough to power America's progress for hundreds of years! For coal accounts for 92% of America's entire fuel reserves.

How fortunate that America's privately-managed coal mines are the world's most efficient! Equipped with the latest modern machinery, the American miner's output is 4 to 24 times that of any miner in Europe or Asia.

If you are responsible for choosing a fuel—to power a factory—to heat your home or other building ... *consider these important advantages of bituminous coal.*

DOWN-TO-EARTH FACTS ABOUT COAL!

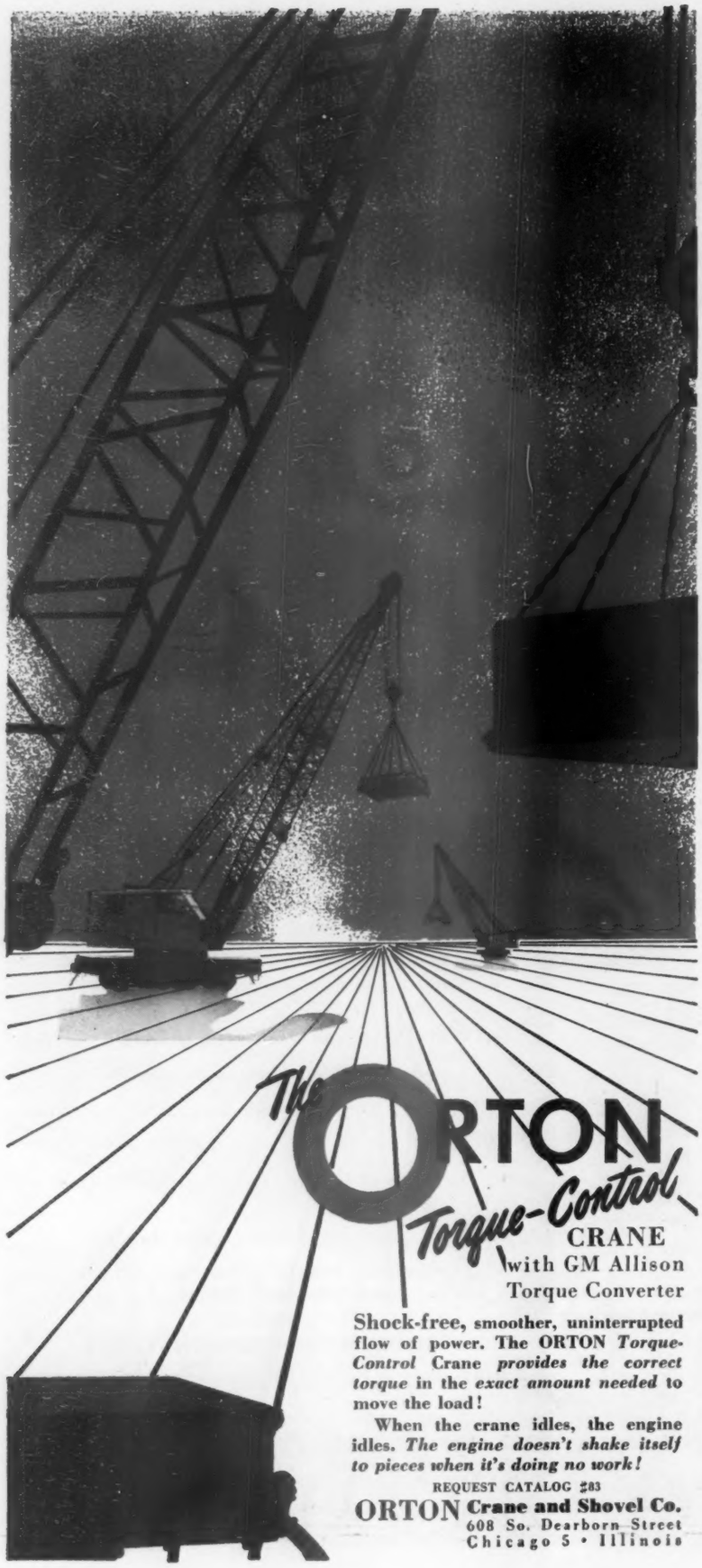
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- **Easiest and safest to store *of all fuels!***
- **America's vast reserves make coal's supply always dependable!**
- **Dependable supply assures price stability!**
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tions of increasing importance, and in 1941 was appointed express traffic manager. One year later he became assistant general freight agent at Tampa, Fla., and in March 1944 was



W. E. Rachels

appointed special representative in the public relations department at Norfolk. Mr. Rachels was named public relations representative in May 1950.

OBITUARY

William Francis Turner, who retired in December 1932 as president of the SPOKANE, PORTLAND & SEATTLE, died recently at the age of 79.

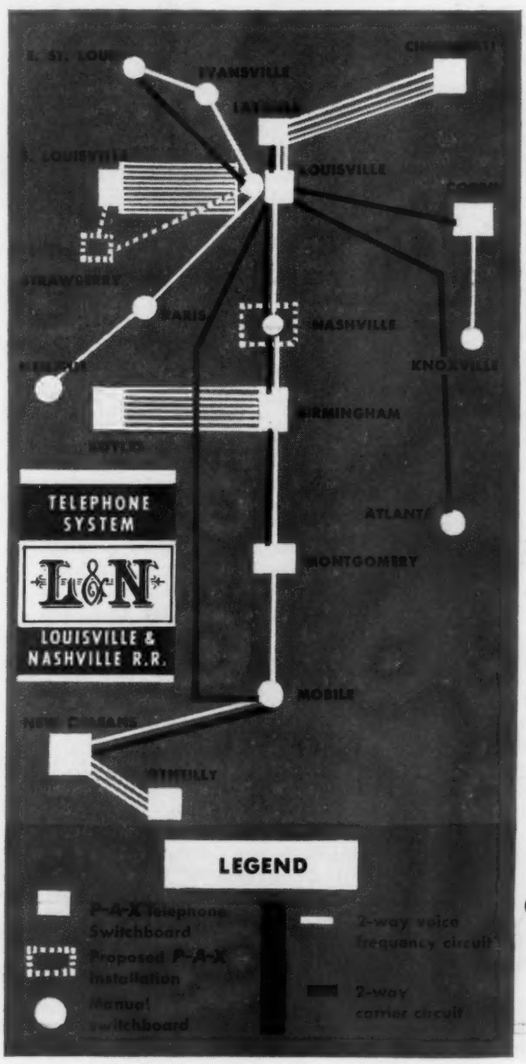
William L. Taylor, 49, former assistant to vice-president of the SOUTHERN SYSTEM at Washington, D. C., and for the past two years chairman of the Southern Classification Committee at Atlanta, Ga., died on November 5 at Chicago. Mr. Taylor was born on September 8, 1902, at Alexandria, Va., and joined the Southern in April 1918 as a clerk at Washington. After serving in various clerical positions in the freight traffic department, he served successively as chief clerk, commerce agent, assistant to freight traffic manager and assistant freight traffic manager. In April 1949 Mr. Taylor was promoted to assistant to vice-president and five months later resigned to accept the chairmanship of the Southern Classification Committee.

Hugh H. Davenport, general car inspector for the Eastern lines of the CHICAGO, BURLINGTON & QUINCY, died November 6 in Aurora, Ill.

Bruce B. Kemmerling, 63 general storekeeper of the PENNSYLVANIA at Philadelphia, died on October 29. A native of Altoona, Pa., Mr. Kemmerling entered railroad service in 1904 as an apprentice at Altoona Works. Following his appointment as district storekeeper at New York in 1919, he was advanced to various positions in the stores department, becoming general storekeeper in 1945.



H. W. Burwell, Telephone Engineer of the L & N, shown with one of the road's first P-A-X's, says: "P-A-X Telephone Systems have given us dependable service—24 hours a day—for more than 36 years! We, here at the L & N, have always found it easy to expand any one P-A-X and also to connect additional P-A-X's into our network. And I'm glad to say that Automatic's engineering facilities have been a big help to us!"



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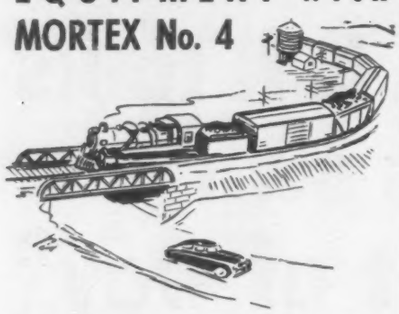
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One application of this tested coating is far superior to paints and cut-back asphalt products. Its the most practical low-cost rust preventive for roofs, interiors and underframes of steel freight and refrigerator cars, covered hopper cars used for soda ash, lime and similar products, ice bunkers and equipment exposed to acid fumes and gases.

It's tops for steel bridges, cooling system ducts and sumps, outside storage tanks, tool houses and bins.

Will not run, sag, blister or craze at temperatures up to 250° F.



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Current Publications

PAMPHLETS

Bulletin No. 83, Railway & Locomotive Historical Society. 93 pages, illustrations. Railway & Locomotive Historical Society, Baker Library, Harvard Business School, Boston, Mass. $1 to members; $2 to non-members.

This entire bulletin is devoted to locomotives of the Canadian Pacific; it was prepared by Omer S. A. Lavallee and Robert R. Brown. The roster is divided into four sections, covering government operation and the three company series of road numbers. During the period of government construction there was no unified system of numbering, and some very confusing duplication of numbers. For this reason, the roster of the period is listed in considerable detail. The company's first numbering system, started in 1882, continued in use until 1902, when there was a partial renumbering, and 1905 when the remaining locomotives were renumbered. The 1905 series remained in use until 1912, when the present series started. The four sections are completely cross-indexed, to facilitate tracing the history of individual units, and all additions and changes to December 31, 1950, have been included. The bulletin is well-illustrated.

Brief History of the American Labor Movement. 66 pages, illustrations. Prepared by the Bureau of Labor Statistics, U. S. Department of Labor. Available from Government Printing Office, Washington 25, D. C. 25 cents.

This history was first prepared several years ago for the Department of State for use by labor attaches in foreign countries. A brief chronology of labor events from 1778 to date has been added to bring together in a compact form some of the more important happenings in the American labor movement. Chapters cover early organization, development of the modern labor movement, the period between the two World Wars, the Second World War and after, and the labor movement in 1950.

The Idea Factory. 20 pages. Prepared by the American Railway Magazine Editors Association. Available from A. E. Greco, manager, public relations, Pullman Company, Chicago 54; or C. G. Massoth, editor, Illinois Central Magazine, 135 East Eleventh pl., Chicago 5. Free

A summary of ideas to improve readership of railroad "house organs" originally presented at the A. R. M. E. A. convention in Boston last year. In this condensed, booklet form, these ideas are intended primarily to lend a helping hand to company magazine editors outside the railway field. Brief articles by 22 railroad editors take up such widely varied subjects as writing and editing, magazine content, promotion and circulation, use of pictures, the magazine in employee and public relations, and the magazine in education. On the back cover is a photograph showing the nearly 50 magazines that members of the association produce regularly for the railroad industry.

History of the A. T. C. 45 pages, illustrations. Prepared by R. A. Ellison, secretary-treasurer of the Associated Traffic Clubs of America. Distribution limited to officers and members of the board of directors of the association, members of standing committees and others similarly qualified.

A carefully documented history of the national traffic club organization from its beginning in 1922 (when the clubs boasted some five to six thousand members) to the present (when 167 clubs have a membership of 45,000). All important documents are reproduced, including the constitution, the statement of aims and purposes, and the A. T. C. emblem. In addition to chronological listings of officers and directors, the book carries a record of all past meetings, and of topics discussed by all guest speakers who have addressed the group.

BOOK

Directory of Railway Officials & Year Book, 1951-1952, compiled from official sources under the direction of the editor of the Railway Gazette. 626 pages. Tothill Press Limited, 33 Tothill st., Westminster, S. W. 1, London, England. 40 shillings.

This useful handbook makes its appearance in slightly revised form this year. The method of presentation of the various units of British nationalized transport has been further revised to make the data more useful. There also has been official revision of entries of a number of foreign countries from which details have not been received for many years. These include Japan and the U. S. S. R., and various (although not all) "iron curtain" countries in eastern Europe. An entirely new entry is that for Saudi-Arabia, and details relating to Austria have been expanded considerably. The order of the statistical and year book information has been rearranged to secure a more logical sequence. Some sections devoted to matters which are entirely of historical interest have been omitted. Additions include a new loading diagram for British mainline passenger rolling stock, and details of right and left hand running through the world. The railway bibliography has been pruned and now comprises only current works published in recent years or standard historical works. All entries continue to be divided into one of two main divisions, namely, British Commonwealth (regardless of dominion or colonial status) and foreign. Each of these sections is again sub-divided geographically into continents. This geographical arrangement is further emphasized this year by use of distinctive headings which it is hoped will facilitate quick reference. There are three indexes: an index to countries; a general index, including all references to railways and statistical and other information; and a comprehensive personal index of railway officials.

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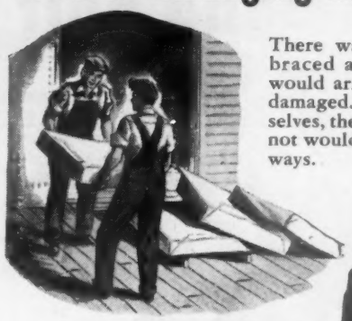
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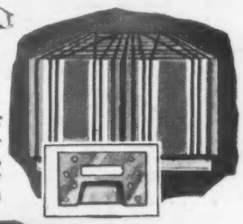
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Lewis sealtite slotted head bolt



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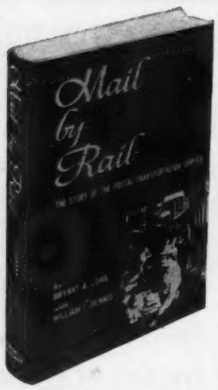
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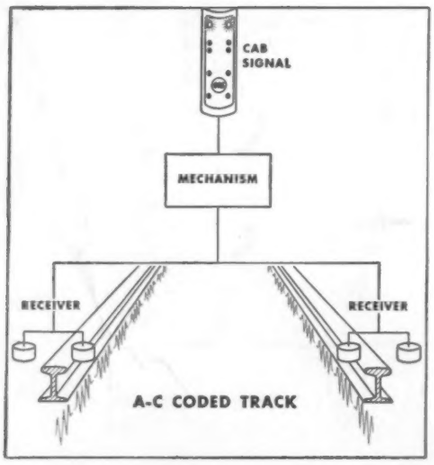
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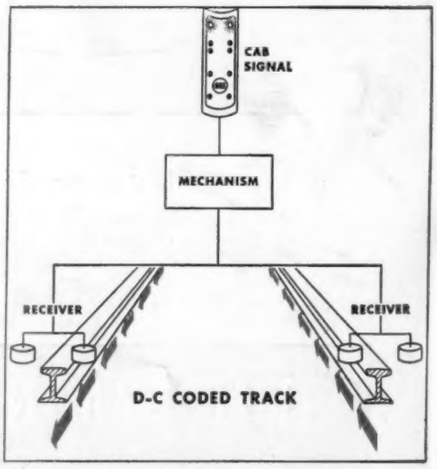
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